City of Cambridge.

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THE

MAYOR'S ADDRESS

AT THE

Organization of the City Government,

JANUARY 4, 1886,

AND

THE ANNUAL REPORTS

MADE TO THE CITY COUNCIL,

FOR THE YEAR 1885.

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ADDRESS

OF

HON. WILLIAM E. RUSSELL,

MAYOR.

Gentlemen of the City Council: —

As required by our charter, we have met in convention to-day, "to be sworn to the faithful performance of the duties" of the respective offices we now assume. A custom, as old as our charter, makes it my duty at this time to give you such information and to recommend such measures as the interests of the city seem to require; and so to review the work of the past year, and to suggest the work that is before you.

A year ago, in my Inaugural Address, I stated certain business and economic principles that I believed should be applied and followed in the administration of our city affairs. The City Council cordially approved the suggestions, and ably and thoroughly enforced them. The year's work has since been reviewed by the people, and met with their approval. So far as this approval is personal to ourselves, we are deeply grateful for their continued confidence, and doubly anxious to deserve it; so

far as it relates to our acts, it is their wish, which to us is a command, that the policy of the past should be continued. Briefly stated, that policy was: to pay the year's expenses from the year's income, and have no floating debt; in fixing the expenses, to practise the care, economy, and honesty that are a public duty when using others' money as a public trust; to be prudent and far-sighted in fixing the year's appropriations, which determine the year's income, and then to live within that income when so determined, and so avoid extravagance, unpaid bills, or debt; to lighten, if possible, the burden of the city's taxes, while providing properly and fully for her needs; and with a liberal, comprehensive spirit to plan and begin such public improvements as her future needs make of present planning and providing a present necessity; lastly, to use the power granted us, for public purposes only, — not for personal or selfish ends, not for partisan or political interests, nor as an instrument to reward or punish. The policy thus declared was the pledge given. I believe the pledge has not been broken.

The financial year began with an almost empty treasury, with unpaid bills of over $20,000, with a floating debt for current expenses of $206,040, including a deficiency of $35,040 in the city sinking fund, and with the example before us of a year when expenses had largely exceeded appropriations, and a higher tax-rate had been fixed than for five years. The year has ended with the bills of 1884 all paid, and none of 1885 unpaid; the deficiency in the sinking fund has been made good, the floating debt funded, $16,000 of it paid into the sinking fund, and no other floating debts created; ex-

penses have been kept well within appropriations; the tax-rate has been reduced $1.30, and is the lowest rate since 1874; and there remains a surplus in the treasury of nearly $45,000. The needs of the city have been fully met. More money has been spent on our schools, more work done on our streets, more lamps have been set, more sewers have been laid, more has been done for health, fire, and police protection, and more for the gentle, kindly care of our helpless poor during the past year than for many years. A prolonged but needed investigation of the Almshouse has been made, and has resulted in a necessary and beneficial change. All departments have worked with great vigor; all city officials have faithfully and thoroughly done their duty; and almost without exception the Committees of the City Council have been prompt in attendance, expeditious and careful in their work, and have borne with patience the unusual strain put upon them.

Besides the ordinary work of the year, the City Government has settled three important questions that for many years have been subjects of discussion and anxiety. How and where to get an additional water supply, to reinforce our present inadequate and failing source; how best to extend our cemetery, crowded to its utmost limits; and how best to provide further accommodations for the High School, that have been needed since 1875,—are questions now answered. Our water-pipes stretch from our reservoir at Fresh Pond over seven and one half miles to Stony Brook, from which before the end of the year there will flow an almost inexhaustible water supply. The cemetery, en-

larged by the purchase and addition of the Winchester estate, has ample accommodations for at least a generation. The purchase of the Lee-street Church has made an easy and inexpensive solution of the High School difficulty for some years.

Such, in brief, have been the policy and work of the past year. The citizens, by their indorsement, expect and demand that this year we take no backward step. Let us deal with the finances of the city on plain, honest, business principles; apply ourselves earnestly and with unselfish purpose to the work before us; fully meet all proper wants of the city, and with wise forethought look ahead to her future needs.

I ask your attention while I now, with some detail, state the financial condition of the city, the work of the departments, and their needs.

FINANCES.

Our liabilities at the close of the financial year (Nov. 30, 1885) were as follows: —

FUNDED CITY DEBT.

Bonds outstanding	$1,838,000.00
Sinking fund for payment of same	542,954.20
Net funded city debt	$1,295,045.80

FUNDED WATER DEBT.

Bonds outstanding	$1,747,500.00
Sinking fund for payment of same	874,373.38
Net funded water debt	$873,126.62

FUNDED DEBT OF 1884 AND 1885 COMPARED.

			1884.		1885.
City funded debt			$1,762,000.00		$1,838,000.00
Water funded debt			1,459,500.00		1,747,500.00
Gross funded debt			$3,221,500.00		$3,585,500.00
Less sinking funds	City	$590,196.54		$542,954.20	
	Water	787,161.56	1,377,358.10	874,373.38	1,417,327.58
Net funded debt			$1,844,141.90		$2,168,172.42

Increase in 1885 of net funded debt (city and water)	$324,030.52
Deduct floating debt funded and paid	206,040.00
Increase of total funded debt by new debt	$117,990.52

The net increase of city funded debt during the year has been $123,242.34; but there has been paid, by funding, the floating debt, amounting to $206,040.00, making a net decrease of city debt of $82,797.66.

During the year $189,000 of the city funded debt has matured and been paid from its sinking fund. $200,000 has been added by the funding of the floating debt, and $65,000 for the Cemetery extension. This last item is the only *new* debt created, except $6,500, in a note of the city due in 1887, given for the purchase of the Lee-street Church for High School purposes. $111,265 has been paid into the city sinking fund. $167,000 of the debt matures this year, and will be paid from the sinking fund.

The net city funded debt, exclusive of water debt, is now about $2\frac{3}{10}$ per cent of the present valuation ($55,346,555) of the city. In 1877, when the debt was largest, it was about $4\frac{3}{4}$ per cent of the then valuation

($55,700,000) of the city. The Act of the Legislature of last year, which took effect Jan. 1, 1886, limits the indebtedness of cities to 2½ per cent on the average valuation of the preceding three years.

The water debt is distinct from the city debt, and is taken care of by its own revenues. Its net increase during the year has been $200,788.18. Bonds to the amount of $288,000.00 have been issued for the extension of our Water Works to Stony Brook. This amount, less the increase in its sinking fund ($87,211.82), represents the increase of the water debt.

The increase in our funded debt has been caused by the undertaking of great public works long needed, whose benefits will be shared by many years to come. It is just and proper that those years should bear with us the burden. Only by so distributing it is it possible ever to undertake such work. Such a course was anticipated when, in the Inaugural of last year, it was said: "Any unusual but necessary expense,—such as the extension of the Water Works and Cemetery, rebuilding the High School or building a new one,—which is incurred as much for the future as the present, it is unjust should be borne wholly by the present. It properly is made a debt to be distributed among the years that receive the benefit. Especially is this true where, as in the Cemetery extension, the present expense will be repaid in future years by an annual income from the sale of new lots."

I would again urge that, in deciding between unusual expenses which should be borne at the time of their creation, and those which may rightly be divided and

distributed, we choose the safer course, and let the present bear the burden. This has been done in the building of the new city stable, the paving of Main Street, and the building of a grammar school-house, which expenses have been met by taxation the past year. I would recommend that the expense of the new High School-house, which, as it arose last year after appropriations were made, was partly met by a loan of $6,500, be paid out of the surplus in the treasury.

The advantage of such a course is apparent. It leaves the future unencumbered by any legacy of debt from the past; it makes the burden of the expense immediately felt, and its necessity immediately reviewed; it checks hasty and unwise expenditure, and insures the prudence and responsibility that always come when large expenditures create heavy burdens at once felt. In the near future, perhaps this year, we shall have to provide our share of the cost of a new bridge to Boston and of a metropolitan system of drainage for the Charles River and Mystic River basins,—in addition to providing $200,000 for completing the extension of the Water Works to Stony Brook. These are burdens that must be met by long loans distributed over future years. Let us be careful that, with these burdens on the future, we put no other that properly belongs to the present.

OTHER LIABILITIES.

Other than the funded debt, the liabilities of the city are its trust funds, now amounting to $31,250, and its note of $200,000 given in 1883 to the sinking fund of the Water Works for balance of yearly receipts over

expenditures in that department since 1865, which had been carried into the treasury, instead of being paid to its sinking fund as required by law. As compared with last year, there has been a decrease in this indebtedness of $207,040, by funding the floating debt ($206,040) and by paying from the treasury into a distinct fund the amount ($1,000) received in 1884 in trust for the perpetual care of lots in the Cambridge Cemetery. To this fund has been added the amount so received in 1885,—$1,450. I recommend that this course be continued: that any money given the city in trust for any purpose be kept intact as an income-earning principal; and not made, as in the past, income only for the year in which it is paid, and an annual charge forever afterward. I renew my recommendation of last year that we begin at once to take some steps towards restoring the principal of these trusts.

The floating debt was funded in bonds running ten years; eight per cent ($16,000) of it last year was paid into the sinking fund, as required by law. I believe the funding of this debt has resulted in all the benefits anticipated. Instead of being a debt which each year planned to lessen, but really increased, it has become a debt for whose payment each year must contribute eight per cent till its final cancellation. The existence of a debt in a form which did not attract attention, which was not included in the usual statement of the liabilities of the city, which did not carry with it the burdens of a funded debt, and which might be handed down from year to year constantly increasing, and then paid at pleasure, was a form of debt most deceptive, destructive of economy, and hardest to get paid.

Gentlemen of the City Council, we begin this year without a floating debt; with a large surplus in the treasury, after deducting the county tax and the unexpended balances received from the sale of bonds; and with all bills paid. Let us take care that we end the year as well; that we pay every dollar of the year's current expenses from the year's income; that we create no floating debt; that, if possible, we further reduce the tax-rate, still too high, and then not leave for our successors an empty treasury.

I now ask your attention while I briefly refer to the work done by the respective departments last year, and the important matters that will come before you for consideration.

SCHOOLS.

First of all the departments in importance and in cost are our public schools. Let us carefully guard their interests, and see that in our hands their vigor and strength are unimpaired; that they may ever be, as they ever have been, the great power that, by making intelligent, useful, law-abiding citizens, preserves the peace and prosperity of the community.

With a growing population, it is natural that there should be in this department an increasing yearly expense; new school-houses must be built, more teachers must be employed. The citizens will cheerfully bear this burden, if we prudently and properly spend their money. Besides the current expenses, there was appropriated last year $18,000 for the enlargement of the Webster Grammar School-house, which provides for Ward Four additional

accommodations long needed. I regret to say that the failure of the contractor has delayed this work. A new contract has recently been made, and a further appropriation of $2,000 provided. The work is now progressing rapidly and will soon be finished.

The High School has for many years been overcrowded. To maintain its efficiency there was need of immediate relief. The School Committee discussed with much ability various remedies; finally, by a decisive vote it recommended to the City Government a separation of the Classical and English Departments, and that for the first another building be provided. After careful consideration, the City Government adopted these suggestions. The Lee-street Church was purchased at the moderate expense of $6,500, and is now being refitted for use as a classical school at a cost of about $9,000. The new school is named the Cambridge Latin School.

Happily, wisely, and inexpensively has this much discussed question been settled. May both departments thrive apart with all the vigor that marked their union; and each preserve and increase the reputation that has always honorably distinguished the old High School!

Two recommendations from the School Committee, for schools in the Fifth and Second Wards, have been referred to you. With the expense on this year of completing the work on the buildings of the Webster School and the Latin School, it seems hardly possible to carry out both these recommendations without putting a heavy and unusual burden on a single year. I would suggest that the School Committee decide and report to the City Government which school is the more needed.

I herewith submit the usual

SCHOOL STATISTICS FOR 1885.

Number of pupils on the first of December	9,651
Increase during the year	589
Number of teachers on the first of December	224
Increase during the year	8
Cost of the day schools, not including expenditures for new school-houses and new furniture	$206,806.09
Increase over last year	$3,571.53
Cost of the schools per pupil	$23.90
Decrease from last year	.25
Cost of evening schools	$1,683.52
Cost of drawing schools	$933.15
Amount appropriated for new school-houses and new furniture	$32,167.71
Amount expended	$18,089.01
Balance unexpended	$14,078.70
Total expenditures for all school purposes	$227,511.77
Deducting receipts from Hopkins Fund ($777.20) and for tuition of non-resident pupils ($326.75), cost of the schools to the city	$226,407.82
Increase over last year	$3,976.12

In connection with our public schools it is proper that I should call your attention to the needs of the

CAMBRIDGE PUBLIC LIBRARY,

which so ably supplements their work. More than anything else it needs a proper and commodious house in which to live. Its good work is much restricted by accommodations wholly insufficient. Year after year the city has expressed the wish that some public-spirited citizen would see her want, and answer it. May we still hope, with the worthy examples recently set by generous

citizens in Malden and Chelsea, that this city of learning may soon point to her honored citizen who gave her better than riches,—the power to make more useful a library that may carry education to every household. A special appropriation of $500 was made last year to begin a new catalogue. $2,000 more is needed to carry on the work. Of its appropriation of $7,000, there is a balance unexpended of $356.49.

WATER WORKS.

In this department the work during the past year has been unusually important. Besides the ordinary labor of construction and maintenance, the extension to Stony Brook has been pushed with vigor. In February the laying of the pipe began; a line of thirty and thirty-six inch pipe now extends over seven and one half miles to the dam at Stony Brook, all but about two miles laid by Cambridge men, under the charge of our efficient Superintendent. The work of cleaning the basin and building the dam is progressing rapidly, and probably will be finished next summer. The original contract for this work was abandoned soon after it was made by the contractors, who demanded more time and money. In the opinion of the Water Board the demand was unreasonable, and was refused. After again advertising for proposals a new contract was made at an increased cost. By this default of the contractors the work was delayed about three months of the best season of the year. The Water Board has directed suit to be brought against the original contractors and their bondsmen for breach of the contract; a counter-suit against the city is pending.

The gauge of Stony Brook, kept through the whole year, shows a daily flow of from two million to over seventy million gallons, with a daily average of much more than our present daily consumption. There can be no question that on the completion of this extension the city will have an abundant supply of pure water for many years without further expense. The cost of this work so far has been about $300,000; the estimated cost of finishing it, including all damages, is $200,000. Much work has been done in cleaning and deepening Fresh Pond, and in building up and riprapping its shores, preparatory to the introduction of the new water supply. By authority of the City Council the Water Board has secured, by purchase and by taking under the Act of 1875, substantially the entire borders of the Pond; with these under our control, all pollution of the water of this our Reservoir can be prevented. The necessary work of building dams to shut off parts of the Pond that pollute its waters, and of excavating its shallow places, has resulted in the construction, nearly around its shores, of a rough road, that at small expense can be made an attractive driveway.

The sound financial condition of this department is very creditable to its management. The total cost of our Water Works to Nov. 30, 1885, including the money paid for their original purchase ($291,480) in 1865, and all money spent for the Stony Brook extension is $2,087,378.49.

Its outstanding debt is	$1,747,500.00
Its sinking fund is	874,373.38
Its net cost is	$873,126.26

which last sum represents the net cost of all its works, including its pumping station, engines, and equipment, its Reservoir and high service, and its ninety-five miles of pipe. Its own revenue has paid all its expenses, including maintenance, and has provided a sinking fund equal to more than half its debt.

Its income last year was			$192,242.41
Its expenses were,	General construction . .	$12,434.32	
	Maintenance	29,914.51	
	Supplies	4,491.97	
	Interest	92,725.00	
	Sinking fund	52.676.61	
			$192,242.41

With the water-rates as at present, its income this year will fully meet all its expenses, including the fixed charges on all its debt. As compared with other large cities, our water-rates are low. During the next five years $537,000 of its debt matures; upon its payment there will be a yearly saving of about $45,000 for interest and sinking fund, — enough to make a very substantial reduction of water-rates if no further unusual and heavy expense falls upon this department. By July 1, 1896, $1,421,000 of its debt will mature and be paid from its sinking fund. Certainly the Water Works have been a self-sustaining and profitable institution.

STREETS.

With more than eighty miles of public streets in our city, most of them constantly travelled, made on a soil naturally unfitted for roads, it is almost impossible, with any reasonable appropriation, to have them all in the

condition desired. The appropriation last year for their repair was larger than for many years, and much improvement was made in their condition. Fifty-four streets were graded in whole or in part. The paving of Main Street was extended to Pelham Street. Eight streets, of a total length of 3,637 feet, were accepted; $14,200 was paid for a new city stable that was much needed; and $3,500 for street widening. Of the bridges in charge of this department, Third Street Bridge was rebuilt, and Sixth Street Bridge replanked. All the bridges are now in good condition. The Superintendent recommends that the paving of Main Street be further extended this year, in which recommendation I heartily concur; he further recommends increased appropriations for street repairs, paving, and for the care of shade-trees and public grounds, and the purchase of a steam roller; the City Engineer renews his recommendation of last year for the construction of a bulkhead on the southerly side of Mount Auburn Street, — all of which recommendations are submitted for your consideration.

The appropriations for this department last year were: repairs, $90,924.02; paving, $13,894.49; widening, $3,500.00; watering streets, $21,557.01; new stable, $14,200.00; shade-trees and public grounds, $4,044.10; bridges, $5,000.00.

BRIDGES.

Our principal bridges (West Boston, Canal, and Prison Point) are in charge of a commissioner as a distinct department. He reports that a new bulkhead has been built on the Boston end of West Boston Bridge. The

draw of Canal, or Craigie's Bridge and also that of Prison Point Bridge have been retimbered and replanked, in addition to the usual repairs on all the bridges. This year the bulkhead of West Boston Bridge for its entire length on the Cambridge side must be rebuilt, and quite extensive repairs made on Canal Bridge.

The long-disputed claim of Sarah E. Hamblet to land and buildings on the Cambridge side of Canal Bridge has been compromised and settled by the payment to her of $800, one half of which sum was paid by Cambridge and one half by Boston.

The appropriation for this department was $8,000, of which amount $900 was afterwards transferred to other departments. Besides this transfer, there is an unexpended balance of $261.84.

Our efficient Bridge Commissioner, Mr. Marvin, also performs the duties of Harbor-master without additional pay. His report, as such officer, shows that the work of this office is considerable. I recommend that a small salary be paid him as Harbor-master.

SEWERS.

There have been constructed the past year $2\frac{81}{1000}$ miles of new sewers, making a total of $71\frac{430}{1000}$ miles of sewers in the city. The principal new sewer was the extension of the sewer in First, Vine, and Second Streets, to take in the Charles Street sewer outlet, at a cost of $9,758.96. This extension relieves a large locality from an old nuisance. Proper sewerage has also been provided for the Bolton Street district in Ward 5, upon the recommendation of the Board of Health. Much work has been done

in repairing and rebuilding old sewers, particularly in Willard, Howard, Hayes, and Pleasant Streets. The outlet of the Bridge Street sewer has been cleaned and dredged at an expense of $2,403.30. This sewer, having its outlet in the midst of a thickly settled population, and constantly discharging offensive matter from large slaughtering establishments, has become dangerous to public health, an almost intolerable nuisance, and a serious annual expense. The City Engineer believes that the evil would be much lessened if the sewerage from the Squire and North establishments was taken care of on their own premises with the aid of proper filters. I recommend that this matter receive your careful consideration, and also some plan for the drainage of the Belmont District. It probably will be necessary this year to rebuild the old sewer in Charles Street, and portions of the sewers in Sixth, Second, Spring, and Hastings Streets.

The Massachusetts Drainage Commission, appointed by the Legislature of 1884, to consider and report a proper metropolitan system of drainage for the basins of Charles and Mystic Rivers, has matured plans that will be presented to the Legislature this year. Their plan for the Charles River basin contemplates removing all sewerage from the river, and provides in its place an outlet for the sewerage of Waltham, Newton, Watertown, Cambridge, Brookline, and part of Boston as one district, by building a main trunk sewer on the southerly side of the river to Waltham, which shall connect with the main sewer of Boston, having its outlet at Moon Island. An intercepting sewer is to be built on the northerly side of the river around Cambridge from the Watertown to the Somerville

line, with a pumping station near the Brookline Bridge, to pump the sewerage so intercepted into the sewer across the river. The expense of the whole system (estimated at about $1,500,000) is to be apportioned over the district benefited according to population. The expense to Cambridge is estimated at about $430,000, with an annual expense (including fixed charges on the debt created) of about $30,000. Such a system, besides removing from the river all sewerage, would confer two great benefits: it might furnish an outlet for sewerage in the Belmont district, which has lacked proper drainage, because no proper outlet could be found; and it would remove the serious and dangerous nuisance now existing at the outlet of the Bridge Street sewer. The plan of the Commission also contemplates a system of drainage of the Mystic River basin, which would provide for the sewerage now emptying into Alewife Brook. The cost of this system to Cambridge is estimated at about $100,000. It will take about three years to construct these systems.

While this matter is beyond our control and entirely within the control of the Legislature, it seems to me very important that the general plan, when reported, and all its details should be very carefully considered by us, and the views of this city, through us, made known to the Legislature. No subject of greater importance to this city, or one requiring more careful consideration, has arisen for many years. That the interests of the city in this and other matters that may come before the Legislature may be carefully watched and fully protected, I strongly recommend the appointment of a joint committee of the City Council on legislative business.

STREET LAMPS.

One hundred and five have been set the past year,—seventy-one at the city's expense,—a large increase over any previous year. These have been placed in parts of the city little inhabited, or inhabited by persons unable to bear the expense of posts and lanterns, and so placed for the safety and convenience of the travelling public, as a valuable aid in police protection, and to make the city a more desirable place of residence. Well-lighted streets are a great public blessing. I recommend that the efficient work of last year be continued; there are still many dark streets that should be lighted.

The attention of the City Council has recently been called to the question of electric lighting, by the application of two companies to set poles in our streets for this purpose. Cambridge is certainly behind the times in having no such lighting of her streets. The expense is much more than lighting by gas; but the improvement is so great that I believe it commends itself to the citizens, and justifies the additional cost. I recommend that, whenever a proper plant is established, the city place electric lights in her squares and on some of her main thoroughfares.

The amount appropriated for this department was $34,000; balance unexpended, $730.93, after making a transfer of $1,000 to other departments. The cost per lamp was $30.64½,—a saving of $3.08 per lamp over the prior year. This saving was largely due to the reduction in the price of gas, from $1.90 to $1.65 per thousand feet, made July 1, 1885. The total number of lamps now lighted by the city is 1,058.

POLICE DEPARTMENT.

There has been no death, resignation, removal, or appointment in the force during the past year. I am happy to say that but two members of the force have needed to be disciplined by the Committee on Police, and none for intoxication or drinking. As a whole, the force has been active, faithful, and efficient.

The Civil Service law went into force on March 30, 1885. The entire police of the city, with the exception of the chief, come under its rules, as well as a few officers and clerks in other departments. An examination has been held of applicants for the police, and a list is now ready to be certified to the Mayor, whenever a vacancy occurs. I believe most thoroughly in the principle of this law, and in its practical working. It is just, democratic, and wholesome in its results; a great relief to the appointing power; a proper protection to the office-holder; and, by placing men on the equality of merit uninfluenced by fear or favoritism, of great benefit to every municipality. I wish that its provisions might be extended to other departments of the city.

During the last year 1,884 arrests have been made, including 32 prosecutions for violation of the liquor law. A commendable and determined effort has been made to enforce the provisions of this law, and with good success. I believe that it can and should be thoroughly enforced by the police, and that so to enforce it is much better than to rely on outside help.

The appropriation for this department was $80,000; balance unexpended $642.27, after making a transfer

of $1,000 to other departments. Its receipts were $6,043.84. Net cost, $72,313.89. A proper cabinet and record books for keeping a "Rogues' Gallery" have recently been purchased.

PROBATION OFFICER.

The City Council, by attaching a salary, has given vitality to this office, that before had only a nominal existence; its work has been important and useful. Over 1,100 cases have deen investigated; 79 persons have been placed on probation, of whom but five were afterward sentenced. A record of all convictions has been kept, and the time of the officer has been fully employed in his good work of tempering justice with mercy, and in saving as well as convicting criminals.

FIRE DEPARTMENT.

The number of alarms the past year was 118, with a loss of property amounting to $94,417,—a considerable increase over the prior year. The insurance on this property was $205,120. Extensive repairs have been made on Engine No. 3, and a new hose-wagon ordered in place of Hose-Carriage No. 3. The apparatus, hose, and horses are reported to be in good condition. A tower has been built on Engine House No. 5, in which has been put a bell and striker. A ten-circuit automatic repeater was purchased and connected with the fire-alarm telegraph. The Chief Engineer recommends that additional circuits be constructed, to prevent large sections of the city from being deprived of the alarm by disarrangement of the line; also that a more substantial building be erected

in place of the house of Hook and Ladder No. 2, which is in very poor condition.

The appropriation for last year was		$61,000.00
Expended	$59,341.15	
Transferred	1,000.00	
		60,341.15
Balance unexpended		$658.85

ALMSHOUSE AND THE POOR.

The number of persons supported by the city the past year has been 394, as follows: 282 at the Almshouse, 4 at State Reform School, 5 at State Industrial School, 17 at Middlesex House of Correction, and 86 at State Lunatic Hospitals. There have been 36 new cases of insanity during the year. In addition to the number of insane in State institutions, 27 of the mildly insane have been placed in the Almshouse. The average monthly number of inmates at the Almshouse was 145. Much outside aid has been given in charity, and in exchange for work done at the city ledge.

The large increase the past few years in the number of insane persons supported at the city's expense is a matter that deserves your serious consideration, — both to ascertain, if possible, the cause, and also the best place and method of their treatment. It cost the city nearly $11,000 last year for their care in State institutions; this year the cost will be nearer $13,000. These institutions are so over-crowded that the State authorities have repeatedly urged the local authorities to take care of their own insane. Whether the time may not soon come when the city should undertake this work

is a matter for your consideration. The Overseers of the Poor have also referred to you a recommendation of the Warden, approved by them, that some more effectual means should be adopted of separating the different classes of inmates at the Almshouse. The diversity in their character and condition is shown by the following statement of the Warden: "Of the 202 persons admitted during the year, 75 were minors (including 17 truants), of whom 19 were under 5 years of age; 38 were more than 60, and 10 were more than 70 years old; 148 could not perform labor; 40 were subjects for hospital treatment; 9 were ill with contagious or infectious diseases, and 11 were insane or demented." The structure of the building allows a separation of most of the classes; but in part of the building "helpless age and helpless infancy are in close and unavoidable contact, under circumstances which suggest grave physical and moral dangers, against which the only practical assurance is absolute separation." I recommend this matter to your careful consideration. A new cottage is nearly built on the Almshouse grounds to take the place of the old one that has become unfit for use, and is to be used for such cases as can be better cared for there than in the Almshouse proper.

A long and thorough investigation of the management of the Almshouse was made by the Overseers in July and August, upon charges made against it of certain abuses there existing, chiefly in the methods of punishments. After a full hearing, the Board decided that, while the general care and treatment of the inmates had been kind and proper, there were abuses that should be corrected,

and that the interests of the institution demanded an entire change in its management. In consequence, Martin L. Eldridge and his wife were made Warden and Matron, and Oliver G. Fosdick watchman.

From frequent personal observation and investigation, I cannot speak too highly of the success of the new management. Without severity, but with perfect discipline, with mutual respect, sympathy, and kindness between the inmates and those in charge, the institution quietly and thoroughly does its kind work of charity,—work that should always be mingled with sympathy and love, and not be the mere performance of a legal obligation.

The expenses of this department have been as follows:

Total expenditures, outside aid (including $10,790.18 paid for the insane at State hospitals)	$21,456.31
Total receipts	4,673.32
Net cost	$19,782.99
Total expenditures, Almshouse, Farm, and Ledge	$21,340.25
" receipts	7,030.59
Net cost	$14,309.66
Total net cost for care of poor	$31,092.65
The expense of collecting house offal, which work is under the voluntary charge of the Overseers of the Poor, has been	$13,541.68
Receipts	7,354.36
Net cost	$6,187.32

THE CAMBRIDGE CEMETERY.

The Cemetery has been enlarged and much improved by the purchase of the adjoining Winchester estate, so called, which adds $18\frac{4}{10}$ acres of land well adapted for

burial purposes. For some years the Cemetery has been crowded; at last its enlargement became an imperative necessity. The City Council, late in 1884, voted to purchase this estate for $50,000, provided the assent of Watertown, necessary to make the extension, was first obtained. Early in 1885, after much negotiation, the purchase was made for $47,750, or $2,250 less than estimated. $15,000 was also paid to Watertown for its assent to our use of the land for burial purposes, and to its annexation to Cambridge,—this sum being compensation to her for loss of taxable property. An Act of the Legislature was obtained, containing the terms of this agreement, and authorizing the city to issue bonds to the amount of $70,000, to meet the expense of the extension. $65,000 have been issued, running twenty years, bearing 4 per cent interest: the amount realized from their sale was $69,660.50, of which there remains unexpended a balance of $947.81. Almost $6,000 has been spent in preparing the new land for burial purposes. A new Public Lot has been laid out in the extension, and nearly four hundred interments made in it.

The appropriation for the cemetery last year (including $12,500 estimated revenue) was	$13,000.00
Expense	11,686.53
Balance unexpended	$1,313.47
Its actual revenue was	$13,245.70
Expenses	11,686.53
Balance of revenue over expenses	$1,559.17

Gentlemen, in this summary and imperfect way, I have tried to show you the present condition of the city, its

work the past year, and its work for you to do. The statement would certainly be very incomplete, if I neglected to mention two great benefits her generous citizens have given her.

THE CAMBRIDGE HOSPITAL,

built entirely by private effort and generosity, is now finished, and will soon commence its noble work of charity. I trust that it may meet with all success, and that the city, grateful to it for the blessing that it brings, will ever be ready to render it any assistance desired.

THE YOUNG MEN'S CHRISTIAN ASSOCIATION,

another private charity and public blessing, has recently moved into its new quarters in Central Square, and commenced active work. Its large and attractive rooms are open to the public, who are warmly welcomed to this religious home. I know of no institution that has a wider field of usefulness, or more deserves public support.

This old city, always distinguished for her piety, patriotism, and learning, ever foremost in business enterprise and honest labor, is now equally distinguished for "the charities that sooth and heal and bless."

So much for the past and its work; let me call your attention once more to the work before you. I have stated the needs of the departments, and have referred to the important matters of water and sewerage that will demand your attention. One other matter, nearly if not quite as important, deserves your early consideration and prompt action, — that is, the

NEW BRIDGE TO BOSTON.

Next to pure and abundant water, and proper and complete drainage, there can be no greater public benefit, or one wider in its scope, than the building of this bridge. Cambridge and Boston have long since outgrown their present connecting thoroughfares; the convenience of 60,000 people on one side of the river, and of many thousands more on the other side, demands a quicker, shorter transit between them. I am happy to say that last year this city did all in its power to satisfy this demand. Early in the year the City Council made a contract with the Charles River Embankment Company and other owners of land and flats on the river front, extending nearly from Brookline Bridge to West Boston Bridge, by whose terms said owners agreed to give the land and grade it within their limits for the extension of Front Street, as our approach to the new bridge; to build a road between the bridge and Erie Street extended; to give the land and grade it for the extension of Erie Street; and finally, as fast as filled, to leave an esplanade on the water front 200 feet wide, and deed it to the city as a public park. In return, the city, in effect, agreed not to increase the taxes on their lands (exclusive of buildings) for ten years, and to release them from any betterments arising from the building of the bridge. The filling of these flats, which must be of great benefit to the city, has been delayed, awaiting favorable action on the new bridge.

The plan of the bridge and its location were agreed upon by the special Committees of the City Councils of

Boston and Cambridge. The bridge was to run from West Chester Park to Front Street extended; to be a high, level-deck bridge of iron on stone piers, of an estimated cost of about $425,000, which was to be divided equally between the two cities. Our City Government, with substantial unanimity, adopted the report of its Committee, and voted to build the bridge. The Board of Aldermen of Boston took similar action, but the Common Council non-concurred, and defeated it.

I urgently recommend that you give this important matter early and favorable consideration. I believe that, if we promptly do our part, Boston will not again allow so great a public benefit to her to fail.

Gentlemen of the City Council: —

The interests of the city are now in your keeping for the coming year, placed there by a willing and trustful people, who ask of you honest, faithful, unselfish service. This, I am sure, you will cheerfully render, happy in the thought that your efforts can add to the prosperity of our well-beloved and honored city.

With a heart overflowing with gratitude to my fellow-citizens for the kind unanimity that has again devolved upon me responsibilities that, in the pressure of other and imperative duties, I feel I now for the last time assume, I gladly take up the work of the year, implicitly relying on your assistance, experience, and wisdom. In our labor let us ever recognize His protecting hand "under the shadow of whose wings we repose," who for the past year has saved our city "from the pestilence

that walketh in darkness, and the destruction that wasteth at noonday;" who has so bountifully blessed our institutions, our industries, our homes, and our charities, and now crowns our opening year "with loving-kindness and tender mercies."

ANNUAL REPORT

OF

THE COMMITTEE ON FINANCE.

The Committee on Finance for the year 1885 herewith submits its final report.

The call for heavy outlays of the public money in nearly every city department, during the past year, has been no less urgent than in years preceding, although by reason of the reduction in the Interest account and the amount payable annually to the Sinking Funds, the footings of such appropriation accounts as relate to the ordinary annual expenses, show an aggregate below that of the year 1884, as will hereinafter appear. Every project submitted to the City Council during the year, involving large expenditure, has been referred to this committee for its consideration, and none has been recommended without careful investigation and deliberation thereon.

Among the important and responsible duties imposed upon your committee, has been the negotiation of the bonds issued from time to time under authority of the city council. These were upon the following accounts, viz: —

Water works (Stony Brook extension)	$288,000.00
Municipal loan, funding of floating debt	200,000.00
Cambridge cemetery enlargement	65,000.00
Total,	$553,000.00

The annual estimates as submitted by the committee in the month of February last, and as amended and adopted by the city council, were as follows:

Appropriations, 1885.

Expenses on appropriation accounts	$1,197,035.00
Temporary loan or floating debt, Nov. 30, 1884	171,000.00
Amount due the sinking funds, as of Nov. 30, 1884	35,040.00
Allowance for estimated uncollected taxes of the year 1885, remaining uncollected as of Nov. 30, 1885	50,000.00
	$1,453,075.00

Contra.

Balance of cash in treasury Dec. 1, 1884, after providing for the cemetery fund	$158.50	
Estimated revenue on appropriation accounts	294,810.00	
Amount of corporation tax from Commonwealth for 1885, (estimated)	40,000.00	
Amount of National Bank tax from Commonwealth for 1885, (estimated) $18,000, less $6,000	12,000.00	
Amount of uncollected taxes, 1884 and previous years (estimated)	65,000.00	
Amount from sale of mortgage notes and city lands (estimated)	15,000.00	
Total estimated revenue of all kinds and cash in the treasury		$426,968.50
Balance to be provided for		$1,026,106.50

By the foregoing it appears that the amount required to be raised to meet the liabilities of the city, for the year 1885, was $1,026,106.50. The committee recommended that the amount be provided for as follows: —

1. By the issue of City Bonds, bearing 4 per cent interest and running ten years, to an amount equal to the Temporary Loan ($171,000) and the amount due the Sinking Funds ($35,040), say		$200,000.00
2. The estimated premium on the same being		6,040.00
3. By the issue of water loan bonds bearing interest not exceeding four per cent and running twenty years, to an amount equal to the appropriation, before recited, for water works (construction)		15,000.00
4. By assessment upon the polls and estates of the inhabitants of Cambridge, etc., for the current year, being the amount required for municipal expenses for the year. (The state tax and county tax were added hereto by the assessors, by authority of law)	796,266.50	
To the last named sum the city council added by changes of appropriations	8,800.00	
Making a total of		$805,066.50
		$1,026,106.50

The city council adopted these recommendations, except that the amount to be raised by taxation was fixed at the sum of $804,800. Final provision was thus made for the temporary

loan, which had been carried forward from year to year, and which by the addition of the amount due to the Sinking Funds, had at length reached the sum of $206,040.

To the sum ordered to be raised by taxation as above stated		$804,800.06
There were added by the assessors: —		
Amount of overlay	$10,927.06	
State tax for 1885	44,835.00	
County tax for 1885	29,381.54	
Non-resident bank tax	4,652.25	
Additional warrants	416.21	
Total additions by the assessors		$90,212.06
Amount of assessor's warrant		$895,012.06
Of this sum there was collected and paid into the city treasury the sum of		820,676.76
Leaving unpaid		$64,335.30
Estimated deficiency provided for in the financial estimate of the year		50,000.00
Amount of deficiency in excess of estimate above stated		$14,335.30

This deficiency is, however, more than made up by the excess of revenue in other accounts as shown below: —

	Estimated Revenue.	Actual Revenue.	Excess.
On Appropriation Accounts, not including Water Works and Cemtery Extension	$112,300.00	$144,640.70	$32,340.70
Premium on Municipal Loan	6,040.00	7,887.56	1,847.56
Uncollected Back Taxes	65,000.00	75,907 90	10,907.90
City Lands and Mortgage Notes	15,000.00	22,584.90	7,584.90
	$198,340.00	$251,021.06	$52,681.06

The excess of receipts above the estimates upon the foregoing accounts was	$52,681.06
Less deficiency in estimate of collections from taxes for the year 1885	14,335,30
Net surplus revenue	$38,345.76

The amount of appropriations at the beginning of the year was		$1,197,035.00
To this should be added the amount due to sinking funds for 1884		35,040.00
Additional appropriation for High school-house, provided for by temporary loan, payable in 1886 and 1887		14,000.00
Subsequent additions to appropriations from excess of revenue and other sources		35,500.88
Total amount of appropriations made during the year, exclusive of the water works account (Stony Brook extension), and the Cambridge cemetery extension account		$1,281,575.88
Amount actually expended upon the appropriations included in above footings		1,249,920.52
Balance unexpended		$31,655.36
Less amount of estimated premium on municipal loan included in the above		6,040.00
		$25,615.36
The total expenditure under appropriation heads in 1884 was		$1,241,062.48
Less Water Works account		202,716.57
Balance		$1,038,345.91
Total expenditure under appropriation heads in 1885	$1,249,920.52	
Less Water Works account, and amount due Sinking Funds, 1884, included in Municipal Loan and belonging to the account of 1884	228,608.54	
		1,021,311.98
Actual decrease of expenses in 1885 from footings of previous year		$17,033.93

The following tables exhibit a comparison of the amounts expended upon the various appropriation accounts in the years 1885 and 1884, respectively, omitting such items as were not directly provided for in the tax levies for the years stated.

CITY ACCOUNTS.	Expended, 1885.	Expended, 1884.	Increase.	Decrease.
Abatements and Discounts.	$45,955.89	$44,137.14	$1,818.75	
Bridges	4,991.61	13,499.72		$8,508.11
Bridges (West Boston, Craigie and Prison Point)	6,838.16	8,986.85		2,148.69
Cambridge Public Library	6,643.51	6,494.15	149.36	
Cambridge Cemetery	11,686.53	14,312.85		2,626.32
Engineering	6,340.45	7,047.77		707.32
Fire Department	59,341.15	58,138.65	1,202.50	
Health Department	3,173 26	2,286.76	886.50	
Incidental Expenses	45,794 07	51,979.76		6,185.69
Interest	131,668.12	156,402.37		24,734.25
Lighting Streets	32,269.07	31,763.20	505 87	
Pauper Department	21,456.31	19,106.77	2,349.54	
Pauper Department (Almshouse)	21,340.25	19,447.05	1,893.20	
Pauper Department (House offal)	13,541.68	10,666.81	2,874.87	
Police Department	78,357.73	74,218.59	4,139.14	
Salaries	23,795.90	22,629.15	1,066.75	
School Department (Drawing Schools)	933 15	949.70		16.55
School Department (Evening Schools)	1,683.52	1,253.22	430.30	
School Department (Incidental Expenses)	596.47	1,467.18		871.71
School Department (Salaries)	159,840 13	152,766.00	7,074.13	
School Department (Textbooks and Stationery)	13,708.47	14,761.90		1,053.43
School Houses (Care and Repair)	32,661.02	34,926.48		2,265.46
School Houses (New and Furniture)	11,589.01	17,304.34		5,715.33
Sewers (Construction)	23,954.41	16,644.77	7,309.64	
Sewers (Maintenance)	16,990.99	17,220.16		229.17
Shade Trees and Public Grounds	4,013 93	4,119,18		105.25
Sinking Funds	76,225.00	80,225.00		4,000.00
State Aid	12,397.00	13,450.50		1,053.50
Stationery and Printing	2,950.47	3,276.07		325.60
Street Department (Paving)	13,894.49	18,176.43		4,281.94
Street Department (Repairs)	90,924.02	88,819.31	2,104.71	
Street Department (Repairs New Stable)	14,199.20		14,199.20	
Street Department (Watering)	21,557.01	31,842.08		10,285.07
Street Department (Widening)	3,500.00		3,500.00	
Surrendered Estates (Care and Repair)		26.00		26.00
Totals	$1,014,811.98	$1,038,345.91	$51,504.46	$75,139.39

Decrease of expenditure on sundry appropriations in 1885 .	$75,139.39
Increase of expenditure on sundry appropriations in 1885 .	51,504 46
Net decrease	$23.634.93

Included in the expenditures of 1885, as above shown, is the item $14,199.20 for a new city stable, which was begun and nearly completed in the year 1884, the same having been authorized under an order of the last City Council.

In addition to the expenditures upon the usual appropriation accounts, and included in the amount raised by taxation, there were also paid from the city treasury, under the direction of this committee, and by proper authority, the sums following: —

For Cambridge cemetery extension: —		
Additional land (formerly Winchester estate)	$47,750.00	
Paid town of Watertown	15,000.00	
Sundry expenses, grading, etc.	5,962.69	
		$68,712.69
For Lee-street church property, for High school		6,500.00
Payment of amount overdue Sinking Funds, 1884		35,040.00
Payment of temporary loan of 1884		171,000.00
Total,		$281,252.69

The above payments were provided for as follows: —

Cambridge cemetery extension: —		
By cemetery loan, registered bond	$65,000.00	
Premium,	4,660.50	
		$69,660.50
Lee-street church property: —		
By city note		6,500.00
Sinking Funds, amount due 1884	$35,040.00	
Temporary loan of 1884	171,000.00	
	$206,040.00	
By municipal loan	$200,000.00	
Premium	7,878.56	207,887.56
		$284,048.06
Less payments provided for as above		281,252.69
Balance of premium unexpended { Cemetery loan, $947.81 / Municipal loan, $1,847.56 }		$2,795.37

That portion of the above balance belonging to the cemetery extension loan ($947.81) is specially retained by the treasurer for that account.

The several loans authorized by the City Council, including

those mentioned in the foregoing statements, were negotiated as follows: —

Water works (Stony Brook construction)		
Bonds dated April 1, 1885, 25 years at 4 per cent	$200,000.00	
Sold at $1.05\frac{89}{100}$ Premium	11,780.00	
Amount received		$211,780.00
Bonds dated April 1, 1885, 25 years at 4 per cent	$88,000.00	
Sold at $1.08\frac{83}{100}$ Premium	7,770.40	
Amount received		95,770.40
		$307,550.40
Amount of bonds	$200,000.00	
	88,000.00	288,000.00
Amount received for premium		$19,550.40

The premium received as above was added to the appropriation for water works (Stony Brook construction.)

The other loans hereinbefore mentioned were negotiated as follows: —

Cambridge cemetery extension: —		
1 Registered bond, dated Aug. 1, 1885, at 4 per cent, payable in 20 years	$65,000.00	
Sold for $1.07\frac{17}{100}$ Premium	4,660.50	
Amount received		$69,660.50

The premium received upon these bonds was added to the special appropriation for Cambridge cemetery extension.

Municipal loan: —		
Coupon and registered bonds, dated April 1, 1885, at 4 per cent, payable in 10 years	$200,000.00	
Sold for $1.03\frac{89}{100}$ Premium	7,887.56	
Amount received		$207,887.56
The municipal loan authorized for the payment of the temporary loan of 1884	$171,000.00	
And amount overdue Sinking Fund, 1884	35,040,00	
Deduct the amount of the two items		206,040.00
Balance of premium received		$1,847.56

This balance of premium was placed to the revenue account of Incidental Expenses, and subsequently added to that appropriation.

The annual settlement with the Commonwealth was made in November, 1885, and the transaction included in the accounts of the year, as follows: —

RECEIVED FROM COMMONWEALTH.

Corporation tax, 1885	$41,807.49	
National Bank tax, 1885	17,022.06	
State aid, Acts 1879, chap. 301	10,250,00	
Support of State paupers	258.87	
Support of State paupers, temporary	62.12	
Burial of State paupers	92.00	
State aid, Acts 1879, Chap. 252	1,073.00	
		70,565.84

PAID THE COMMONWEALTH.

State tax, 1885	$44,835.00	
National Bank tax, 1885	4,876.44	
		49,711.44
Balance received by the city,		$20,854.40

In addition to the above amounts, there were received from the Commonwealth at the beginning of the year the following sums: —

Corporation tax	$4,208.26
National Bank tax	94.98

Thus making the total amounts received on these accounts during the year as follows: —

Corporation tax	$46,015.75
National Bank tax	17,117.34

The above items are shown in the Auditor's statement for November, 1885.

The County tax for the year 1885, amounting to $29,381.54, is specially reserved from the balance remaining in the treasury, for payment in December.

The amount borrowed on temporary loans in 1884, was as follows: —

Payable from taxes of 1884	$540,000.00
Payable from taxes of 1885	171,000.00
Total,	$711,000.00
Borrowed in 1885, and paid from taxes of same year	300,000.00
Decrease in 1885	$411,000.00

The amount due the commissioners on the Sinking Funds was paid as follows: —

Unpaid indebtedness, 1884	$35,040.00	
Advanced in the month of April	20,000.00	
		$55,040.00
Advanced in October		56,225.00
Total,		$111,265.00

The interest upon the payments, was adjusted as follows: The amount due the commissioners on the overdue balance of 1884, and the amount due the city treasury on the sum advanced in the month of April, were allowed to offset each other. The amount of interest received upon the sum of $56,225.00, advanced to the commissioners, was $53.88.

The amount paid for interest upon temporary loans in 1884, was	$15,795.37
Interest so paid in 1885	13,790.52
Decrease in 1885	$2,004.85

A sub-committee of this committee, met at the treasurer's office at the close of business Nov. 30, and counted the cash on hand.

The amount was found to be	$164,614.76

Included in the above are the following amounts received from the commissioners of the respective sinking funds, for the payment of bonds, but which have not been presented: —

Cambridge city bonds	$14,000.00	
Water bonds	2,000.00	
		$16,000.00
Actual cash balance		$148,614.76

This amount is found to agree with the auditor's statement, as shown below: —

Amount of cash in hands of treasurer		$164,614.76
LESS		
Amount received for city bonds not presented	$14,000.00	
Amount received for water bonds, not presented	2,000.00	
Amount reserved for payment of county tax .	29,381.54	
Amount unexpended from sale of cemetery bonds	947.81	
Amount unexpended from sale of water bonds	15,443.63	
		$61,772.98
Balance in treasury Nov. 30, 1885, as per auditor's (corrected) monthly statement for November, 1885		$102,841.78
Less unpaid bills of November, to be paid in December, 1885		58,315.86
Balance in treasury as per auditor's account Nov. 30, 1885 .		$44,525.92

The last named sum represents the actual balance in the treasury at the close of business, Nov. 30, 1885, after providing for all liabilities incurred in 1885, and due and approved by the proper boards and committees before the close of the financial year.

A subsequent examination was also made by the committee, of the accounts respectively kept by the treasurer and auditor, and the same were compared and found to be accurately kept. All were ascertained to be correct.

The usual tables from the assessors' books are given below: —

Polls and Valuation of Estates in 1885.

Wards.	Polls.	Personal.	Real Estate.	Total.	Dwellings.
Ward 1.....	2,715	$5,468,950	$11,094,600	$16,563,550	1,779
Ward 2.....	4,481¾	3,354,315	10,740,500	14,094,815	2,439½
Ward 3.....	3,156	1,454,590	6,945,500	8,400,090	1,421
Ward 4.....	3,975¼	1,553,400	8,353,500	9,906,900	2,385
Ward 5.....	1,708	927,000	5,454,200	6,381,200	1,082
Total.....	16,036	$12,758,255	$42,588,300	$55,346,555	9,106½

Polls and Valuation of Estates in 1884.

Wards.	Polls.	Personal.	Real Estate.	Total.	Dwellings.
Ward 1.....	2,723¾	$5,038,200	$10,757,300	$15,795,500	1,677
Ward 2.....	4,259	3,373,545	10,488,600	13,862,145	2,377
Ward 3.....	3,085¼	1,425,446	6,852,100	8,277,546	1,403
Ward 4.....	3,680¼	1,429,200	8,063,700	9,492,900	2,296
Ward 5.....	1,651	993,100	5,127,500	6,120,600	1,028
Total.....	15,399¼	$12,259,491	$41,289,200	$53,548,691	8,781

Comparative statement of polls, valuation, and dwellings, showing increase under each heading over the figures of the preceding year: —

Years.	Polls.	Valuation.	Dwellings.
1885.....	16,036	$55,346,555	9,106
1884.....	15,399	53,548,691	8,781
Increase in 1885.....	637	$1,797,864	325

By a comparison of the foregoing with the similar table given in the report of the committee on finance for the year 1884, it will be seen that the increase under all the above heads is considerably larger than was shown in the report for 1884.

The amount assessed upon the foregoing polls and valuations was, —

In 1884	$936,421.70
In 1885	895,012.06
Decrease in 1885	$41,409.64

It appears by the above that the amount raised by taxation in this city in the year 1885, was $41,409.64 less than the amount so raised in the previous year. As an agreeable supplement to this fact it appears that the valuation upon property was increased by the sum of $1,797,864, being an increase of $46,513 over the amount added to the valuation in the year 1884.

The rate of taxation was fixed by the assessors at $15.50 per

$1,000, — it being a reduction of $1.30 per $1,000, — from the tax rate of 1884. As this rate is subject by ordinance to a discount of four per cent to those who pay before Oct. 10, the actual rate to all such was $14.88 per $1,000. Upon all taxes remaining unpaid after November 1, interest at the rate of seven per cent was charged, under authority of the city council.

To this committee was given, at the beginning of the year, the important duty of devising the ways and means, wherewith to carry forward the work of the various departments of the city, and having submitted its recommendations to the city council, in accordance with that duty, it could not thereafter feel discharged of its responsibility. On the contrary, it has carefully watched the appropriations from month to month, scrutinizing each item in the statements reported by the auditor, and in co-operation with this vigilance, the city council has referred to your committee for consideration, every proposition involving large expenditure, before adopting the same.

Although it is believed that every necessary project involving an outlay of the public money, that has been asked for, has been encouraged and authorized, it is gratifying to observe that the footings of the revenue accounts of the city for the past year show a large excess over the estimates as made at the beginning of the year. Nearly every appropriation account shows also an unexpended balance, the aggregate amount unexpended upon appropriations being $25,615.36.

The city council having funded the temporary loan, which year by year had continued to increase until it had become an enormous public burden, and been enabled to place the rate of taxation at a sum lower than that of many previous years, our citizens may now hope soon to realize the prosperous results which were expected to follow the reduction of the public debt made during the past three years.

WM. E. RUSSELL,
S. S. SLEEPER,
NATHAN C. LOMBARD,
CORNELIUS G. H. BENNINK,
EDGAR R. CHAMPLIN,
ORIN E. SANDS,
WILLIAM T. NEILON,
ELBRIDGE G. STEVENS,
WARREN IVERS,

Committee on Finance.

ANNUAL REPORT

OF THE

AUDITOR OF ACCOUNTS.

Gentlemen of the City Council:—

THE undersigned, in compliance with a city ordinance, herewith presents the thirty-ninth annual report of the receipts and expenditures of the city of Cambridge, being for the year ending Nov. 30, 1885:—

Total receipts for the year		$2,414,057.55
Add the amount in treasury, Dec. 1, 1884		1,158.50
		$2,415,216.05
Total expenditures for the year		2,354,298.69
		$60,917.36
Less amount unexpended from sale of cemetery bonds	$947.81	
Less amount unexpended from sale of water bonds (Stony Brook)	15,443.63	
		16,391.44
Balance in treasury Nov. 30, 1885		$44,525.92

There has been an increase in the water debt of the city during the year of $288,000, caused by the issue of one hundred and fifty-five water loan bonds of $1,000 each, payable in twenty-five years, at an annual interest of 4 per cent $155,000.00

Amount carried forward $155,000.00

Amount brought forward	$155,000.00
Also thirteen registered bonds payable in twenty-five years, at an annual interest of 4 per cent	133,000.00
	$288,000.00

Of the city funded debt there have matured during the year: —

Bridge Loan bonds (the last of this loan) . .	$ 26,000.00
Building Loan bonds (the last of this loan) .	17,000.00
Funding Loan bonds (the last of this loan) .	24,000.00
Low Land Loan bonds	122,000.00
Total, ...	$189,000.00

There has been an increase in the city funded debt, during the year, of $265,000.00, caused by the issue of two registered bonds, as follows: —

One, a Municipal Loan, dated April 1, 1885, payable in ten years, at an annual interest of 4 per cent, (to fund the floating indebtedness of Dec. 1, 1884)	$200,000.00
The other, a Cambridge Cemetery Loan, dated Aug. 1, 1885, payable in twenty years, at an annual interest of 4 per cent, (to pay for the Cambridge Cemetery extension)	65,000.00
	$265,000.00
In addition, a note dated Oct. 1, 1885, for two years, with interest at 3½ per cent, has been given to the Cambridge Savings Bank, in payment for the Lee street church property for High school purposes	6,500.00
Total, ...	$271,500.00

The following is a statement of the temporary loans negotiated during the year, and the rates of interest on the same: —

Jan. 1, 1885,	100,000	Int.	$3\frac{3}{4}$	"	"	Oct. 12, 1885
Feb. 6, "	100,000	"	$3\frac{1}{2}$	"	"	Oct. 13, "
March 5, "	100,000	"	$3\frac{1}{2}$	"	"	Oct. 14, "
	$300,000					

THE CITY DEBT.

		1885.	1884.
Funded City Loan		$1,838,000.00	$1,762,000.00
Funded Water Loan		1,747,500.00	1,459,500.00
Note to Cambridge Savings Bank		6,500.00	
Temporary Loan			171,000.00
Amount due Commissioners of Sinking Funds			35,040.00
City Note to Commissioners of Sinking Fund of Water Works		200,000.00	200,000.00
Trust Funds: —			
Dowse Institute Fund	$10,000		
Sanders Temperance Fund	10,000		
Daniel White Charity	5,000		
Fay Fund	1,000		
Cemetery Fund	5,250		
		31,250.00	32,250.00
The Gross City Debt		$3,823,250.00	$3,659,790.00
Less amount in both Sinking Funds		1,461,853.50	1,378,516.60
		$2,361,396.50	$2,281,273.40
The increase of the net city debt from last year			$80,123.10

THE FUNDED DEBT.

Following is a statement of the total funded debt of the city, with the dates of maturity and rates of interest thereon: —

City Loan.

Due July 1, 1886, int. 6 per cent, 15 yrs.	$100,000
Amount carried forward	$100,000

Amount brought forward . . .					$100,000	
April 1, 1889,	" 5	"	25	yrs.	100,000	
July 1, 1890,	" 6	"	20	"	20,000	
Jan. 1, 1893,	" 5	"	30	"	150,000	
						$370,000.00

Land Loan.

Due July 1, 1893, int. 6 per cent, 20 yrs. . . .						10,000.00

Low Land Loan.

Due July 1, 1886, int. 6 per cent, 10 yrs.					$60,000	
Oct. 1, 1887,	" 5	"	10	"	120,000	
						180,000.00

Paving Loan.

Due July 1, 1893, int. 6 per cent, 20 yrs.					$100,000	
July 1, 1894,	" 6	"	20	"	130,000	
July 1, 1895,	" 6	"	20	"	25,000	
						255,000.00

Sewer Loan.

Due Oct. 1, 1895, int. 6 per cent, 20 yrs.					$20,000	
July 1, 1896,	" 6	"	20	"	29,000	
July 1, 1903,	" 6	"	30	"	136,000	
July 1, 1904,	" 6	"	30	"	295,000	
July 1, 1905,	" 6	"	30	"	144,000	
						624,000.00

Street Loan.

Due July 1, 1893, int. 6 per cent, 20 yrs. . . .						13,000.00

Street Widening Loan.

Due July 1, 1886, int. 6 per cent, 10 yrs.					$7,000	
July 1, 1903,	" 6	"	30	"	10,000	
July 1, 1904,	" 6	"	30	"	90,000	
July 1, 1905,	" 6	"	30	"	14,000	
						121,000.00

Municipal Loan.

Due April 1, 1895, int. 4 per cent, 10 yrs. . . .						200,000.00
Amount carried forward						$1,773,000.00

Amount brought forward	$1,773,000.00

Cambridge Cemetery Loan.

Due Aug. 1, 1905, int. 4 per cent, 20 yrs. . . .	65,000.00
Total funded City Loan	$1,838,000.00

Water Loan.

Due July 2, 1886,	int.	6	per cent	20	years	$100,000
April 1, 1887,	"	6	"	20	"	150,000
April 1, 1888,	"	6	"	20	"	175,000
May 1, 1889,	"	6	"	20	"	112,000
July 1, 1890,	"	6	"	20	"	60,000
May 1, 1891,	"	6	"	20	"	50,000
July 1, 1892,	"	6	"	20	"	335,000
April 1, 1894,	"	6	"	20	"	150,000
Nov. 1, 1894,	"	4	"	10	"	36,000
April 1, 1895,	"	6	"	20	"	160,000
July 1, 1896,	"	6	"	20	"	103,000
July 1, 1897,	"	6	"	20	"	16,000
July 1, 1898,	"	5	"	20	"	12,500
May 1, 1910,	"	4	"	25	"	288,000

Total Water Loan	1,747,500
Total Funded Debt	$3,585,500

Recapitulation.

Amount of funded City Loan upon which interest is at 6 per cent		$1,203,000
Amount of funded City Loan upon which interest is at 5 per cent		370,000
Amount of funded City Loan upon which interest is at 4 per cent		265,000
		$1,838,000
Amount of Water Loan upon which interest is at 6 per cent . . .	$1,411,000	
Amounts carried forward .	$1,411,000	$1,838,000

Amounts brought forward .	$1,411,000	$1,838,000
Amount of Water Loan upon which interest is at 5 per cent . . .	12,500	
Amount of Water Loan upon which interest is at 4 per cent. . . .	324,000	
		1,747,500
		$3,585,500

RECEIPTS.

The receipts of the year, as credited to the several city accounts, are as follows: —

No.		
1.	Notes Receivable	$10,861.11
2.	Bridges	31.18
3.	Bridges, W. B. C. &c.	289.77
4.	Cambridge Public Library	2,794.99
5.	Cambridge Cemetery	13,245.70
6.	Cambridge Cemetery, Extension	4,660.50
7.	Cemetery Fund	1,450.00
8.	City Lands	1,898.95
9.	Engineering	5.00
10.	Fire Department	289.25
11.	Incidental Expenses	57,679.00
12.	Interest	5,116.18
13.	Interest on Water Loan	1,466.67
14.	Lighting Streets	41.29
15.	Loan, Cambridge Cemetery	65,000.00
16.	Loan, High School	6,500.00
17.	Loan, Temporary	300,000.00
18.	Loan, Municipal	200,000.00
19.	Loan, Water	288,000.00
20.	Pauper Department	4,673.32
21.	Pauper Department, Almshouse	7,030.59
22.	Pauper Department, House Offal . . .	7,354.36
23.	Police Department	6,043.84
24.	School Department, Incidental Expenses .	.40
25.	School Department, Salaries	1,103.95
	Amount carried forward	$985,536.05

NO.		
	Amount brought forward	$985,536.05
26.	School Department, Text Books and Supplies	111.21
27.	School Houses, Care and Repairs . . .	4.00
28.	Sewers, Construction	12,390.42
29.	Sewers, Maintenance	1,682.66
30.	Shade Trees and Public Grounds . . .	115.50
31.	Sinking Funds, Commissioners of . . .	189,000.00
32.	State Aid	12,628.00
33.	Street Department, Paving	2,473.60
34.	Street Department, Repairs	6,967.30
35.	Street Department, Watering	10,456.75
36.	Surrendered Estates, Sale Account . . .	9,824.84
37.	Tax, Corporation	46,015.75
38.	Tax, National Bank	17,117.34
39.	Taxes of 1880	184.00
40.	Taxes of 1881	110.40
41.	Taxes of 1882	1,093.96
42.	Taxes of 1883	4,605.16
43.	Taxes of 1884	69,914.38
44.	Taxes of 1885	830,676.76
45.	Tax, Lien Account	80.15
46.	Water Works, Rates, Fines, etc.	187,252.64
47.	Water Works, Supplies	6,250.55
48.	Water Works, Construction, Stony Brook Supply	19,566.13
		$2,414,057.55

EXPENSES.

The disbursements of the year, as charged to the city accounts, are as follows: —

NO.		
1.	Abatements and Discounts	$45,955.89
2.	Bridges	4,991.61
3.	Bridges — West Boston, Canal and Prison Point	6,838.16
4.	Cambridge Public Library	6,643.51
	Amount carried forward	$64,429.17

No.		
	Amount brought forward	$64,429.17
5.	Cambridge Cemetery	11,686.53
6.	Cambridge Cemetery Extension	68,712.69
7.	Cemetery Fund, (Deposit in Savings Bank)	2,450.00
8.	Engineering	6,340.45
9.	Fire Department	59,341.15
10.	Health Department	3,173.26
11.	Incidental Expenses	45,794.07
12.	Interest	131,668.12
13.	Interest on Water Loan	92,725.00
14.	Lighting Streets	32,269.07
15.	Loan, Temporary	300,000.00
16.	Loan, Payable from Taxes of 1885 . . .	171,000.00
17.	Loan, Bridge	26,000.00
18.	Loan, Building	17,000.00
19.	Loan, Funding	24,000.00
20.	Loan, Low Land	122,000.00
21.	Loan, Water	2,000.00
22.	Pauper Department	21,456.31
23.	Pauper Department, Almshouse	21,340.25
24.	Pauper Department, House Offal . . .	13,541.68
25.	Police Department	78,357.73
26.	Salaries	23,795.90
27.	School Department, Drawing Schools . .	933.15
28.	School Department, Evening Schools . .	1,683.52
29.	School Department, Incidental Expenses .	596.47
30.	School Department, Salaries	159,840.13
31.	School Department, Text Books and Supplies	13,708.47
32.	School-Houses, Care and Repairs	32,661.02
33.	School-Houses, New and Furniture . . .	11,589.01
34.	School-Houses, New and Furniture, High School	6,500.00
35.	Sewers, Construction	23,954.41
36.	Sewers, Maintenance	16,990.99
37.	Shade-Trees and Public Grounds . . .	4,013.93
38.	Sinking Funds	76,225.00
39.	Sinking Funds overdue from 1884 . . .	35,040.00
	Amount carried forward . . .	$1,722,817.48

No.		
	Amount brought forward	$1,722,817.48
40.	Sinking Fund of Water Works	52,785.00
41.	State Aid	12,397.00
42.	Stationery and Printing	2,950.47
43.	Street Department, Paving	13,894.49
44.	Street Department, Repairs	90,924.02
45.	Street Department, Repairs, New Stable .	14,199.20
46.	Street Department, Watering	21,557.01
47.	Street Department, Widening	3,500.00
48.	Tax, National Bank, ...	4,876.44
49.	Tax, State	44,835.00
50.	Tax, County	29,381.54
51.	Water Works, Construction	12,391.28
52.	Water Works, Maintenance	29,914.51
53.	Water Works, Rates, Fines, etc. . . .	1,260.78
54.	Water Works, Supplies	4,491.97
55.	Water Works, Construction, Stony Brook Supply	292,122.50
		$2,354,298.69

Abatements and Discounts.

Amount appropriated	$45,000.00
Amount transferred to	1,000.00
	$46,000.00

EXPENDED.

For Abatement of Taxes	$14,174.11	
Discount on Taxes	31,781.78	
As per item No. 1 of expenses		45,955.89
Balance unexpended		$44.11

Notes Receivable.

Received on account of mortgage notes held by the city for surrendered estates, as per item No. 1 of receipts	$10,861.11

Bridges.

Amount appropriated		$5,000.00
RECEIVED.		
For Damages to Bridge	$25.81	
Lumber	5.37	
As per item No. 2 of receipts . . .	$31.18	
EXPENDED.		
For Advertising	$6.00	
Buoys, making and replacing . .	226.05	
Boat-hire	2.50	
Displacement of tide water . .	6.75	
Hardware and tools	37.45	
Labor	2,148.25	
Lumber	566.21	
Oakum	3.27	
Rebuilding Third Street bridge .	1,988.00	
Stove	7.13	
As per item No 2 of expenses . . .		4,991.61
Balance unexpended . . .		$8.39

Bridges, West Boston, Canal and Prison Point.

Amount appropriated		$7,800.00
Estimated Revenue		200.00
		$8,000.00
Deduct amount transferred to Incidental Expenses,		900.00
		$7,100.00
RECEIVED.		
For Sundries, as per item No. 3 of receipts	$289.77	
EXPENDED.		
For Car tickets for 1884 and 1885 . .	$9.31	
Carting dirt	34.75	
Concrete	23.20	
Electric lights	1,195.55	
Amounts carried forward . . .	$1,262.81	$7.100.00

Amounts brought forward . . .	$1,262.81	$7,100.00
For Hardware	54.38	
Fuel	186.58	
Labor, as per pay-roll	1,941.69	
Labor, extra cleaning	96.25	
Lumber	783.89	
Printing	1.06	
Paving	145.08	
Repairs, carpenter work	564.90	
" chimney	2.18	
" iron work	145.70	
" caulking	153.37	
" plumbing	10.60	
" painting	57.88	
Salary, W. J. Marvin, Commissioner	500.00	
" Chas. S. Parsons, Clerk .	50.00	
Sand	4.00	
Steam whistle	1.50	
Stationery and stamps	12.87	
Supplies	17.72	
Trimming edge-stone	.62	
Tide water displaced	4.69	
Thawing pipes	12.89	
Water	27.50	
Watering roadway	400.00	
Sarah E. Hamblet, for real estate at Craigie's Bridge	400.00	
As per item No. 3 of expenses . . .		6,838.16
Balance unexpended		$261.84

Cambridge Public Library.

Amount appropriated		$4,300.00
Estimated revenue		2,700.00
		$7,000.00
RECEIVED.		
For Catalogues and fines	$146.22	
Dog licenses	2,645.77	
Error in bill	3.00	
As per item No. 4 of receipts . . .	$2,794.99	
Amount carried forward . . .		$7,000.00

Amount brought forward		$7,000.00

EXPENDED.

For Advertising	$4.50	
Books	1,702.31	
Binding books	496.70	
Carpenter work	50.06	
Cards	25.00	
Cleaning rooms	6.75	
Directory	2.50	
Electric lighter, &c.	9.00	
Furniture	32.50	
Gas	286.27	
Guides	5.00	
Ice	7.60	
Librarian and assistants	2,494.65	
Moulding	16.56	
Mats	2.22	
Periodicals and papers	149.52	
Picture frames	12.65	
Paper	36.40	
Printing	179.54	
Rent	1,000.00	
Repairing furniture	4.31	
Repairing gas fixtures	31.42	
Stationery and supplies	42.05	
Substitute	18.00	
Ventilators	10.00	
Water	11.00	
Water cooler	5.00	
Watering streets	2.00	
As per item No. 4 of expenses . . .		6,643.51
Balance unexpended		$356.49

Cambridge Cemetery.

Amount appropriated	$500.00
Estimated revenue	12,500.00
Amount carried forward	$13,000.00

Amount brought forward		$13,000.00
RECEIVED.		
For Burial lots and graves	$6,386.25	
Care of lots, burial fees, &c. . .	5,596.23	
Wood, grass and hay	86.50	
Rent of house	129.12	
Interest on fund for perpetual care of lots from Nov. 30, 1882, to Nov. 30, 1885	1,047.60	
As per item No. 5 of receipts . .	$13,245.70	
EXPENDED.		
For Advertising	$4.00	
Bricks	20.00	
Blankets	12.14	
Castings	59.34	
Car tickets	20.00	
Cart and harness	30.00	
Carpenter work	75.50	
Cleaning house	6.16	
Commissions collecting bills .	40.24	
Directories	4.50	
Drain pipe	427.72	
Drag	10.75	
Expressage	8.60	
Fuel	44.70	
Furnace repairs	11.88	
Grass seed	13.20	
Grave covers	59.45	
Hay and grain	100.19	
Hardware, tools, and repairs .	258.92	
Harness and repairs	102.45	
Horse	200.00	
Horse-hire	1.268	
Labor, as per pay-rolls . . .	11.786.67	
Lawn-mowers and repairs . .	29.85	
Loam	6.80	
Lumber, lime, and cement . .	156.14	
Amounts carried forward . .	$13,501.88	$13,000.00

Amounts brought forward . .	$13,501.88	$13,000.00
For Mason work	13.50	
Manure	126.07	
Marble tablets and lettering .	239.00	
Plumbing	62.28	
Powder	5.68	
Printing	8.75	
Paints	3.15	
Plants	180.50	
Rent of telephone	52.38	
Salary of Supt. J. K. Farwell .	1,300.00	
" " Clerk W. W. Pike .	50.00	
Slating	14.93	
Stationery and stamps . . .	83.67	
Steps	1.00	
Shades	4.40	
Stand-pipe	5.36	
Supplies	12.11	
Stone	37.74	
Stone posts	250.00	
Teaming and ploughing . . .	404.68	
Veterinary surgeon	10.00	
Watchman	22.75	
Wagon	220.00	
Water	103.85	
	$16,713.68	
Less amount to be charged to Cemetery extension . . .	5,027.15	
As per item No. 5 of expenses . . .		11,686.53
Balance unexpended		$1,313.4

Cambridge Cemetery Extension.

Amount appropriated, proceeds of bonds sold . .	$65,000.00
Additional appropriations, being premium received on above bonds	4,660.50
Amount carried forward	$69,660.50

Amount brought forward		$69,660.50
RECEIVED.		
For premium on bonds, as per item No. 6 of receipts	$4,660.50	
EXPENDED.		
For Winchester Estate	$47,750.00	
Compensation to Watertown . .	15,000.00	
Interest on purchase money . .	935.54	
Bills originally charged to Cambridge Cemetery	5,027.15	
As per item No. 6 of expenses		68,712.69
Balance unexpended		$947.81

Cemetery Fund.

Amount of fund, Nov. 30th, 1884	$6,250.00
RECEIVED.	
For perpetual care of lots in Cambridge Cemetery, as per item No. 7 of receipts	1,450.00
	$7,700.00
The amount received this year together with the amount received the previous year has been deposited by the Treasurer in the Cambridge and Cambridgeport Savings Banks (where they draw interest.)	2,450.00
This leaves the Fund in the City Treasury, as it was Nov. 30th, 1883	$5,250.00

City Lands.

RECEIVED.	
Cash payments on estates sold, as per item No. 8 of receipts	$1,898.95

Engineering.

Amount appropriated	$ 7,500.00
Less amount transferred from	800.00
Amount carried forward	$6,700.00

Amount brought forward		$6,700.00
RECEIVED.		
For copy of plan as per item No. 9 of receipts	$5.00	
EXPENDED.		
For Assistants, services of	$3,071.07	
Boots	10.35	
Carpenter-work	5.62	
Car-tickets	90.00	
Hardware, tools, and repairs . . .	33.01	
Materials and supplies	104.17	
Printing	6.07	
Salary of W. S. Barbour, engineer .	3,000.00	
Stakes	3.02	
Stationery	8.07	
Slippers	.70	
Type	4.00	
Tool bag	4.37	
As per item No. 8 of expenses		$6,340.45
Balance unexpended		$359.55

Fire Department.

Amount appropriated		$60,900.00
Estimated revenue		100.00
		$61,000.00
Deduct amount transferred from		1,000.00
		$60,000.00
RECEIVED.		
For Horse	$ 52.50	
Manure	103.50	
Old hose	100.50	
Old hose carriages	16.00	
Telegraph poles	6.75	
Use of engine	10.00	
As per item No. 10 of receipts	$289.25	
Amount carried forward		$60,000.00

Amount brought forward		$60,000.00
EXPENDED.		
For Alarms, (batteries, poles, repairs, ringing bells, etc.)	$1,783.65	
Alarms, automatic 10-circuit repeater,	1,800.00	
Apparatus and repairs	1,808.87	
Badges, buttons, etc.	25.09	
Bedding and furniture	306.72	
Carriage-hire	10.00	
Cleaning clock	2.00	
Enginemen, services of	33,842.58	
Enginemen, (substitutes in vacations and sickness)	752.50	
Expressage	25.82	
Fuel	856.10	
Fuel for engines	289.50	
Gas	697.02	
Hardware and tools	174.36	
Hay and grain	2,515.85	
Hats (Fire)	113.75	
Harnesses and repairs, etc. . . .	398.10	
Harness supports	42.50	
Heating apparatus	73.91	
Houses, repairs and care of . .	1,266.32	
Horses	625.00	
Horse-hire and men	497.25	
Horse-shoeing	487.83	
Hose and repairs	1,207.23	
Hydrants, care of	73.25	
Ice	32.03	
Labor, extra, on ruins	6.00	
Printing	17.31	
Rent of shed	90.00	
Refreshments	30.00	
Salary, T. J. Casey, chief engineer	1,350.00	
Salary, three assistants	974.97	
Salary, clerk	24.99	
Amounts carried forward . . .	$52,200.50	$60,000.00

Amounts brought forward . . .	$52,200.50	$60,000.00
For Supplies (including cleaning materials)	266.53	
Supplies for chemical engine . .	101.52	
Stationery	6.00	
Veterinary surgeon and horse medicine	140.00	
Washing clothing	297.60	
Washing battery floor	24.00	
Water for hydrants and reservoirs	6,140.00	
Water for houses	165.00	
As per item No. 9 of expenses . . .		59,341.15
Balance unexpended,		$658.85

Health Department.

Amount appropriated		$3,500.00
EXPENDED.		
For Advertising	$6.25	
Analyses of water	30.00	
Burying animals	38.25	
Car-tickets	40.00	
Circulars	25.00	
Cow-pox points	149.51	
Directory	2.50	
Disinfectants	34.23	
Expressage	.85	
Medicines	9.35	
Printing	40.94	
Salary of Dr. Holt, health officer .	1,333.33	
Salary of health officer's clerk . .	760.00	
Salary of clerk of board	150.00	
Stationery	69.22	
Stamps	24.00	
Vaccinations . :	459.83	
As per item No. 10 of expenses . . .		3,173.26
Balance unexpended,		$326.74

Incidental Expenses.

Amount appropriated	$10,000.00
Estimated revenue	35,000.00
	$45,000.00
Additional appropriation	20,845.87
	$65,845.87
Add amounts transferred to	7,512.42
	$73,358.29
Deduct amounts transferred from	21,391.54
	$51,966.75

RECEIVED.

For Armory rent from State	$800.00	
Collector's fees	1,056.89	
City clerk's fees	1,683.00	
Sealer's fees	273.83	
Weigher's fees (one-half)	15.14	
Milk inspector's fees	83.25	
Gas used in rented rooms	62.47	
Grease licenses	80.00	
Pedlers' licenses	50.00	
Liquor licenses	43,575.00	
Rent for city buildings	723.92	
Rent of office and shop to water works (two years)	1,200.00	
Release of grading assessment	40.00	
Sale of old stable	55.50	
Premium on bonds	7,780.00	
Money returned by chief of police	200.00	
As per item No. 11 of receipts	$57,679.00	

EXPENDED.

For Advertising	$567.16	
Assessors, assistant	1,072.00	
Assessors, clerical aid to	1,308.00	
Amounts carried forward	$2,947.16	$51,966.75

	Amounts brought forward . . .	$2,947.16	$51,966.75
For	Assessors, carriage hire	36.00	
	Altering registered bond plate .	5.00	
	Binding documents and voting lists	48.90	
	Bridge, new, boring for	7.00	
	Bridge, new, plans for	300.00	
	Banker and Tradesman, for assessors	5.00	
	Bells, ringing	168.00	
	Births and deaths, record of . .	310.00	
	Births, deaths and marriages, indexing	250.00	
	Brackets for lamps	7.00	
	Car-tickets	410.00	
	Carriage-hire	343.50	
	Care of clocks and repairs . . .	164.85	
	Care of wardrooms and cleaning .	55.80	
	Cash box in treasurer's department	3.50	
	Care of fires	40.00	
	Cleaning city scales	5.00	
	Clerk of committees, clerical aid .	430.00	
	Clerk of commissioners of sinking funds	25.00	
	Commissions on sales of real estate	10.00	
	Copying declarations and records .	31.91	
	Counterfeit detector, for treasurer	3.00	
	Damages awarded to: —		
	Richard J. Barry, to horse and carriage . $350.00		
	Margaret J. Corcoran . . 175.00		
	Bridget Brady 200.00		
	Ellen Lloyd 50.00		
	Jeremiah O'Connell . . 75.00		
	John L. Boynton . . . 10.00		
	Maurice O'Connor . . . 50.00		
	Amounts carried forward	$910.00	$5,606.62	$51,966.75

Amounts brought forward	$910.00	$5,606.62	$51,966.75
Patrick Rafferty	42.00		
Harriet H. Cobb	7.50		
		959.50	
Decoration Day (each post $275.00)		825.00	
Deeds, abstracting and recording		309.44	
Directories		30.00	
Disinfectants		2.50	
Drain for City land at E. Cambridge		42.50	
Election expenses: —			
Registrars, salaries of	$1,600.00		
" clerical aid	22.25		
Precinct officers	641.50		
" " deputy	93.00		
Preparing voting rooms	291.61		
Tables	45.50		
Printing voting lists	787.61		
Boards for voting lists and painting	150.50		
Use of Hall, Chas. Beck Post	30.00		
Use of Hall, St. John's	60.00		
Use of Hall, 3rd Cong'l Society (twice)	50.00		
Use of Hall, Temple Hall, caucus and election	150.00		
Use of Hall, Lyceum, caucus	15.00		
Boxes for transportation of ballots	48.00		
Paper boxes	5.34		
Lettering boxes	10.00		
Ballot boxes repaired	7.75		
Posting warrants	21.00		
Moving furniture	12.69		
Hardware	17.72		
Amounts carried forward	$4,059.47	$7,775.56	$51,966.75

Amounts brought forward		$4,059.47	$7,775.56	$51,966.75
For Election expenses :—				
Sawdust	1.00			
		4,060.47		
Executions against the city, viz:—				
George Moore	$25.25			
Sarah E. Graves . . .	462.54			
Mary E. Evans . . .	1,143.48			
John H. Stark *et al.* . .	726.25			
		2,357.52		
Expressage		54.65		
Flags and repairs		7.00		
Flag-staff, repairs		29.00		
Furniture for ward rooms		43.50		
Gas in ward rooms		98.42		
General Grant's memorial service expenses		290.31		
Guide, railroad		1.00		
Hay scales, repaired		38.06		
High school exhibition		50.00		
Indexing records		300.00		
Invalid tax titles (releases) . . .		421.22		
Legal expenses, witness fees, etc. .		326.91		
Liquor licenses (one-fourth to State)		10,893.75		
Massachusetts reports		6.50		
Medical attendance on unknown person		2.00		
Messenger, aid to		120.00		
Mill pond (filling)		1,444.06		
Mill pond, catch basin		75.00		
Milk inspector's outfits, printing, etc		16.75		
Money advanced for arrest of Hayes		200.00		
Newspapers		26.60		
Page of common council		50.00		
Painting water jar		1.50		
Painting cannons		7.00		
Post office boxes		8.00		
Postal cards for treasurer		80.00		
Amounts carried forward . . .			$28,784.78	$51,966.75

Amounts brought forward .		$28,784.78	$51,966.75
For Printing bill (examination of by Chas. Walker)		10.00	
Probation officer		600.00	
Refreshments for committees . .		81.60	
Repairs of ward rooms		6.25	
" City building, Main st., Lower Port		34.82	
Repairs of fence at bathing place .		75.70	
" Rifle range		51.20	
Serving notices		62.18	
Stamps, hand		4.00	
Safety deposit vaults		70.00	
Shovelling snow		61.50	
Sealing city scales		2.36	
Sealing expenses		99.45	
Signs (land for sale)		10.00	
Somerville tax		486.38	
Stationery		32.75	
Supplies and sundries		14.86	
Taxes, poll, collecting		506.92	
Tax and water notices, distributing .		208.38	
Telephoning		2.40	
Treasurer's clerical aid		3,429.37	
Ward One burying ground, supt. .		12.00	
Ward One burying ground, repairing fence		11.41	
Water for fountains		630.00	
Water for ward rooms		9.00	
Weighing coal		104.63	
City Hall: —			
Awnings	$20.50		
Boxes, paper	11.00		
Carpets and beating .	41.64		
Cleaning	543.40		
Cleaning clock . . .	16.00		
Flagstaff and flag . .	61.00		
Fuel	271.95		
Amounts carried forward	$965.49	$35,401.94	$51.966.75

	Amounts brought forward	$965.49	$35,401.94	$51,966.75
For	Furniture and repairs . .	98.90		
	Gas	394.95		
	Gas piping	109.89		
	Hand stamp, repairs . .	3.50		
	Hardware	13.88		
	Ice	56.25		
	Janitor	1,200.00		
	Keys and locks	7.20		
	Mats and repairs	14.91		
	Repairs: —			
	Carpenters'	93.93		
	General	4.20		
	Heating apparatus . . .	71.94		
	Masons', plastering and whitewashing	70.61		
	Painting and glazing . .	112.55		
	Plumbing	8.80		
	Supplies	64.61		
	Teaming furniture . . .	1.25		
	Ventilator	19.25		
	Water	84.50		
	Window tighteners . . .	16.63		
			3,413.24	
	Central square building: —			
	Fuel	$475.65		
	Furniture and repairs . .	9.43		
	Gas	388.49		
	Hardware	2.40		
	Hose, etc.	19.35		
	Janitor	1,140.00		
	Keys and locks	9.42		
	Mats	17.04		
	Repairs: —			
	Carpenters'	21.13		
	Gas-piping	12.45		
	General	19.77		
	Heating apparatus . . .	33.60		
	Amounts carried forward	$2,148.73	$38,815.18	$51,966.75

Amounts brought forward	$2,148.73	$38,815.18	$51,966.75
For Repairs:—			
Mason, plastering	$10.80		
Painting and glazing	18.52		
Roof	54.14		
Snow guards	251.00		
Supplies	13.26		
Water	157.50		
		2,653.95	
Ward 1 building:—			
Bells and fixtures	$10.00		
Carpeting and mats	33.10		
Fuel	783.81		
Gas	669.29		
Gas-piping	77.15		
Gates	50.00		
Globes, opal	5.50		
Hardware	30.55		
Janitor	1,140.00		
Keys and locks	37.70		
Repairs:—			
Carpenters'	$618.98		
General	37.50		
Iron work	6.00		
Mason's	139.45		
Painting and glazing	113.51		
Plumbing	188.11		
Stairs	129.00		
Supplies	24.59		
Water	194.10		
Window tighteners	36.60		
		4,324.94	
As per item No. 11 of expenses			$45,794.07
Balance unexpended,			$6,172.68

Interest.

Amount appropriated	$128,000.00
Estimated revenue	2,000.00
Amount carried forward	$130,000.00

Amount brought forward		$130,000.00
Additional appropriation (excess of revenue) . .		3,116.18
		$133,116.18
Deduct amount transferred from		1,768.58
		$131,347.60
Add amount transferred to		320.52
		$131,668.12

RECEIVED.

On taxes, assessments, etc., as per item No. 12 of receipts	$5,116.18

EXPENDED.

For Interest on Dowse Institute fund	$600.00	
Danl. White Charity fund . . .	300.00	
Funded loan	107,270.00	
Cambridge Public Library fund .	60.00	
Sanders Temperance fund . . .	600.00	
Cemetery fund	1,047.60	
Temporary loan	13,790.52	
Note to commissioners of sinking fund of Water Works	8,000.00	
As per item no 12 of expenses		$131,668.12

Interest on Water Loan.

Amount transferred from Water Works, rates, fines, etc.	$92,725.00

RECEIVED.

5 months' interest on $88,000 of Water Bonds at 4 per cent, as per item No. 13 of receipts. . . .	$1,466.67

EXPENDED.

As per item No. 13 of expenses	$92,725.00

Lighting Streets.

Amount appropriated	$34,000.00
Deduct amount transferred from	1,000.00
Amount carried forward	$33,000.00

Amount brought forward		$33,000.00
RECEIVED.		
For Damages to lamp-posts	$30.00	
Moving lamp-posts	5.30	
Piping lamp-posts	5.99	
As per item No. 14 of receipts . .	$41.29	
EXPENDED.		
For Alcohol	$ 199.10	
Acorns and thimbles	8.72	
Carriage-hire	13.00	
Carriage repairs	44.00	
Car-tickets	10.00	
Castings	6.00	
Chimneys and burners	98.75	
Directory	2.50	
Expressage	3.15	
Founts, (glass)	31.05	
Furniture repairs	1.50	
Gas	20,283.72	
Gas burner	27.63	
Gas fittings	8.42	
Glass and putty	75.77	
Globe Gas Light Company, (ten) lamps	101.63	
Hardware and tools	2.25	
Ladders	57.00	
Lamps, care of, as per pay roll	7,852.32	
Lamps, repairs of	680.62	
Lamp-posts and repairs . . .	1,692.56	
Oil and matches	323.81	
Oil can	4.00	
Posts (stone)	39.30	
Printing	19.54	
Salary of Superintendent . . .	650.00	
Torches	32.73	
As per item No. 14 of expenses		$32,269.07
Balance unexpended		$730.93

Loan (Temporary).

RECEIVED.

For City notes issued during the year, as per item No. 17 of receipts	$300,000.00

EXPENDED.

For city notes due and paid October 12, 13 and 14, as per item No. 15 of expenses	$300,000.00

Loan Payable from Taxes of 1885.

Paid City Notes that were issued during the year 1884, as per item No. 16 of expenses	$171,000.00

Loan (Bridge).

RECEIVED.

From Commissioners of Sinking Funds included in item No. 31 of receipts	$26,000.00

EXPENDED.

From Matured Bonds (the last of this Loan), as per item No. 17 of expenses	$26,000.00

Loan (Building).

RECEIVED.

From Commissioners of the Sinking Funds, included in item No. 31 of receipts	$17,000.00

EXPENDED.

For Matured Bonds (the last of this Loan), as per item No. 18 of expenses	$17,000.00

Loan (Funding).

RECEIVED.

From Commissioners of the Sinking Funds, included in item No. 31 of receipts	$24,000.00

EXPENDED.

For Matured Bonds (the last of this Loan), as per item No. 19 of expenses	$24,000.00

Loan (Low Land).

RECEIVED.

From the Commissioners of the Sinking Funds, included in item No. 31 of receipts	$122,000.00

EXPENDED.

For Matured Bonds, as per item No. 20 of expenses	$122,000.00

Loan (Cambridge Cemetery).

RECEIVED.

From sale of Registered Bond No. 4, dated August 1st, 1885, payable in twenty years with interest at 4 per cent, as per item No. 15 of receipts . .	$65,000.00

Loan (High School).

RECEIVED.

From sale of Note dated Oct. 1st, 1885, payable in two years with interest at 3½ per cent per annum, as per item No. 16 of receipts	$6,500.00

Loan (Municipal).

RECEIVED.

From sale of Registered Bond No. 3, dated April 1st, 1885, payable in ten years with interest at 4 per cent per annum as per item No. 18 of receipts	$200,000.00

Loan (Water).

RECEIVED.

From sale of Bonds, as per item No. 19 of receipts	$288,000.00

EXPENDED.

For Bonds which matured in 1883, but which have not been presented until this year, as per item No. 21 of expenses	$2,000.00

Pauper Department.

Amount appropriated	$16,300.00
Estimated revenue	4,900.00
	$21,200.00
Add amount transferred to	1,406.31
	$22,606.31
Deduct amount transferred from	1,150.00
Amount carried forward	$21,456.31

Amount brought forward		$21,456.31
RECEIVED.		
For Aid to and burial of paupers, as per item No. 20 of receipt	$4,673.32	
EXPENDED.		
For Bags for flour	$8.67	
Beating carpets	5.53	
Board	11,699.60	
Boots and shoes	344.80	
Car-tickets and fares	218.63	
Carriage-hire	8.50	
Commission, procuring nurse . .	4.00	
Crutches	2.00	
Directories	19.50	
Expressage	.75	
Flour	592.55	
Fuel	1,108.23	
Gas	58.56	
Groceries	646.77	
Hardware	.08	
Hose for lamp	2.50	
Ice	6.00	
Map and guides	.60	
Meals	13.84	
Medical aid and medicine . . .	206.35	
Nurse	100.62	
Paupers, aid to	2,220.46	
Paupers, burial of	250.00	
Postage	26.37	
Preparing wood	2.40	
Printing	101.95	
Provisions	159.10	
Rent	427.19	
Rent of telephone, and messages .	40.58	
Repairs	1.18	
Repairs, pung and wagon . . .	90.95	
Secretary, D. P. Muzzey . . .	1,258.31	
Amounts carried forward	$19,626.57	$21,456.31

Amounts brought forward	$19,626.57	$21,456.31
Stationery	89.13	
Supplies	10.86	
Vaccine virus	18.00	
Veterinary surgeon	6.00	
Visitor, V. Danforth	1,500.00	
Wagon for coal	200.00	
Washing	5.75	
As per item No. 22 of expenses		$21,456.31

Pauper Department (Almshouse).

Amount appropriated	$13,300.00
Estimated revenue	6,200.00
	$19,500.00
Additional appropriation (excess of revenue)	830.59
	$20,330.59
Add amount transferred to	1,200.00
	$21,530.59

RECEIVED.

For Aid to paupers	$9.50	
Board of paupers	1,934.83	
Burial of paupers	12.00	
Empty barrels	28.00	
Cart	15.00	
Grease	14.85	
Farm products	335.32	
Horses	70.00	
Old iron	18.50	
Meals	44.75	
Partial support	24.00	
Rags	3.50	
State Aid	10.00	
Stone	4,509.84	
As per item No. 21 of receipts	$7,030.59	
Amount carried forward		$21,530.59

	Amount brought forward		$21,530.59
	EXPENDED.		
For	Bags for flour	$8.34	
	Barge, use of	10.00	
	Beef	1,444.15	
	Butter	537.44	
	Boots and shoes	290.99	
	Buttons	5.71	
	Bellows	2.00	
	Burials	63.00	
	Chaplain	100.00	
	Carriage repairs	95.34	
	Carpet	82.95	
	Clothing	465.87	
	Clocks and repairs	7.85	
	Clipping horse	3.00	
	Commission, buying and selling cow	4.00	
	Commission, procuring nurse	2.00	
	Contract for building cottage (on account)	600.00	
	Carriage robe	3.00	
	Cash to inmates	4.50	
	Directory	2.50	
	Damages by blasting	20.75	
	Disinfectants	13.08	
	Dry-goods	842.59	
	Expressage	18.45	
	Fares	21.16	
	Furniture	70.19	
	Fruits	29.55	
	Flour	878.75	
	Fish	407.00	
	Fuel	1,917.07	
	Gas	211.64	
	Groceries	1,294.44	
	Insect powder	.50	
	Hay and grain	318.00	
	Hardware, tools and repairs	387.46	
	Amounts carried forward	$10,163.27	$21,530.59

	Amounts brought forward . . .	$10,163.27	$21,530.59
For	Hats and caps	64.25	
	Harness repairs	38.85	
	Hand grenades	44.30	
	Hospital supplies	21.96	
	Horse	250.00	
	Hose	3.00	
	Horse combs and brushes	24.19	
	Hand stamp	1.00	
	Ice	45.30	
	Lumber	129.65	
	Lime and cement	16.20	
	Labor and derrick, getting stone for Hospital	409.37	
	Lamps and crockery	38.51	
	Labor on ledge and farm	1,657.00	
	Labor of house officials	2,251.84	
	Mattresses and repairs	10.88	
	Manure	103.50	
	Meal	62.65	
	Medicines	164.18	
	Mower repaired	19.00	
	Needles and thread	12.02	
	Newspapers	18.00	
	Nurse	37.71	
	Organist	100.00	
	Oil	16.28	
	Provisions	1,501.80	
	Potatoes	124.39	
	Pigs	32.00	
	Plants	6.50	
	Presents	18.05	
	Powder	189.60	
	Piano	150.00	
	Reporting hearing	613.25	
	Repairs, carpenter work	149.50	
	Heating apparatus	11.35	
	Painting and glazing	50.48	
	Amount carried forward	$18,549.83	$21,530.59

	Amounts brought forward . . .	$18 549.83	$21,530.59
For	Repairs, mason work.	51.50	
	Roof	75.50	
	Plumbing	501.30	
	Rent of telephone, and messages . .	56.04	
	Seeds	26.35	
	Sealing weights and measures . . .	1.24	
	Soap	115.00	
	Salt	24.00	
	Stationery and stamps	11.58	
	Salaries	42.33	
	Silk	3.00	
	Supplies	41.15	
	Shoe findings	59.72	
	Sewing machine repaired	.75	
	Tin ware repairs	4.25	
	Tobacco	24.00	
	Warden. { W. E. Hough	833.30	
	{ M. L. Eldridge	215.98	
	Washing floors	143.50	
	Water	506.25	
	Wringer	6.00	
	Wooden ware	25.00	
	Whitewashing	10.00	
	Yeast	12.68	
	As per item No. 23 of expense		$21,340.25
	Balance unexpended		$190.34

Pauper Department, (House Offal).

Amount appropriated	$5,500.00
Estimated revenue	6,500.00
	$12,000.00
Add amount transferred to	750.00
Additional appropriation, (excess of revenue) . .	854.36
Amount carried forward	$13,604.36

Amount brought forward		$13,604.36
RECEIVED.		
For House offal, as per item No. 22 of receipts	$7,354.36	
EXPENDED.		
For Axle grease	$27.88	
Disinfectants	30.16	
Harness repairs	134.85	
Horses	675.00	
Horse-shoeing	395.28	
Hay, grain, and straw	1,423.43	
Hardware and tools	24.10	
Labor, as per pay-rolls	10,436.88	
Oil	1.00	
Paint	27.35	
Supplies	2.20	
Wagons and repairs	333.55	
Veterinary surgeon	30.00	
As per item No. 24 of expenses		$13,541.68
Balance unexpended		$62.68

Police Department.

Amount appropriated		$75,000.00
Estimated revenue		5,000.00
		$80,000.00
Deduct amount transferred from		1,000.00
		$79,000.00
RECEIVED.		
For Carpet	$5.00	
Court fees and fines	5,921.39	
Flags	10.00	
Harness	13.95	
Horse	87.50	
Ropes and stakes	6.00	
As per item No. 23 of receipts . . .	$6,043,84	
Amount carried forward		$79,000.00

Amount brought forward		$79,000.00
EXPENDED.		
Blankets	$6.00	
Billies	19.75	
Buggy (cleaning)	1.00	
Buttons, badges, wreaths, &c. . .	57.40	
Cabinet for rogues' gallery . . .	150.00	
Carpets	92.25	
Commission, selling prison van . .	10.25	
Curtain fixtures	2.10	
Cleaning stations	133.48	
Carriage and horse-hire	12.50	
Clocks, repairs of	1.75	
Directories	15.00	
Expressage	.60	
Fares	5.70	
Food for prisoners	70.37	
Fuel	36.28	
Fish hooks and twine	1.30	
Furniture and repairs	36.75	
Gas	499.48	
Gas-burners and piping	27.12	
Hardware and tools	31.20	
Harness repairs	51.80	
Hand-cuffs	28.50	
Horse	150.00	
Horse-shoeing	35.46	
Horse board	553.16	
Insect powder	1.00	
Ice	22.75	
Keys	5.90	
Lumber	58.79	
Medical attendance and medicines . .	26.00	
Medicines	.80	
Mats	2.28	
Money advanced to secure Hayes, the murderer	71.75	
Amounts carried forward . . .	$2,218.47	$79,000.00

Amounts brought forward		$2,218.47	$79,000.00
Moving goods		1.50	
Policemen, salaries of		73,513.57	
Printing		27.79	
Photographs		4.50	
Posting notices		2.50	
Repairs at stations: —			
Carpenter work . . .	159.80		
Heating apparatus . . .	49.50		
Mason work	7.00		
Papering	11.45		
Painting and glazing . .	136.60		
Plastering	42.45		
Plumbing	54.46		
Whitewashing	44.55		
		505.81	
Salary of Chief, L. J. Cloyes . . .		1,600.00	
Supplies		35.31	
Shades		7.75	
Stove, blacking, and storing . . .		2.45	
Telegrams and messages		3.90	
Telephone		100.00	
Telephone wire		175.50	
Veterinary surgeon		2.00	
Washing		15.75	
Wagon repairs		99.43	
Wagon hire		.50	
Water		41.00	
As per item No. 25 of expenses			78,357.73
Balance unexpended			$642.27

Salaries.

Amount appropriated		$23,900.00
EXPENDED.		
Paid James A. Fox, mayor	$ 150.00	
Wm. E. Russell, "	2,291.67	
Amounts carried forward	$2,441.67	$23,900.00

Amounts brought forward	$2,441.67	$23,900.00
Paid Justin A. Jacobs, city clerk . . .	3,000.00	
Walter W. Pike, assistant city clerk	1,200.00	
W. W. Dallinger, city treasurer . .	3,000.00	
W. W. Dallinger, treasurer of sinking funds	300.00	
F. Perrin, auditor	1,800.00	
John McDuffie, clerk of committees	2,000.00	
W. W. Pike, clerk of Common Council	200.00	
F. L. Pratt, city messenger	1,500.00	
A. Z. Brown, assessor	1,433.35	
A. J. Green, assessor	1,433.35	
J. G. Gooch, assessor	1,433.35	
J. W. Hammond, city solicitor . .	2,000.00	
B. F. Nourse, sealer of weights and measures	350.00	
J. H. Farrell, milk inspector . . .	190.81	
F. A. D[illegible]bar, " " . . .	234.19	
J. H. Farrell, vinegar inspector . .	175.00	
L. L. Bryant, assistant city physician	1,104.18	
As per item No. 26 of expenses.		23,795.90
Amount unexpended		$104.10

School Department (Drawing Schools).

Amount appropriated		$950.00
EXPENDED.		
For Janitor	$ 27.15	
Teachers' salaries	906.00	
As per item No. 27 of expenses		933.15
Amount unexpended		$16.85

School Department (Evening Schools).

Amount appropriated	$1,450.00
Add amount transferred to	235.00
Amount carried forward	$1,685.00

Amount brought forward			$1,685.00
EXPENDED.			
For Gas fixtures		$ 3.68	
Ink-stands		30.78	
Janitors		188.00	
Moving books		4.50	
Repairs, (carpenter work)		17.56	
Teachers' salaries:—			
Ward 2	$135.00		
" 3	811.00		
" 4	207.00		
" 5	286.00		
		1,439.00	
As per item No. 28 of expenses			1,683.52
Balance unexpended			$1.48

School Department (Incidental Expenses).

Amount appropriated			$600.00
RECEIVED.			
Error in bill, as per item No. 24 of receipts		.40	
EXPENDED			
For Advertising		$1.50	
Car-tickets		105.00	
Collecting statistics		6.00	
Chemicals		8.29	
Expressage and moving books		21.90	
Printing		128.78	
Page to School Committee		25.00	
Secretary		300.00	
As per item No. 29 of expenses.			596.47
Amount unexpended			$3.53

School Department (Salaries).

Amount appropriated	$159,000.00
Estimated revenue	1,000.00
Amount carried forward	$160,000.00

Amount brought forward		$160,000.00
RECEIVED.		
Hopkins' Fund income	$777.20	
Tuition of non-resident pupils	326.75	
As per item No. 25 of receipts	$1,103.95	
EXPENDED.		
For Superintendent of schools, salary . .	$2,790.00	
Agent's salary	1,200.00	
Teachers' salaries, High and Grammar	89,884.38	
Teachers' salaries, Primary	60,139.00	
Teachers of training class	3,126.75	
Truant-officers	2,700.00	
As per item No. 30 of expenses		159,840.13
Amount unexpended		$159.87

School Department (Text-Books and Supplies).

Amount appropriated		$14,000.00
Deduct amount transferred from		235.00
		$13,765.00
RECEIVED.		
For books sold, as per item No. 26 of receipts	$111.21	
EXPENDED.		
For Text-books	$8,910.51	
Stationery	3,572.46	
Advertising	16.62	
Baskets	5.50	
Carting	129.75	
Car-tickets	35.26	
Chemicals and retorts	8.05	
Cyclostyle	32.40	
Directory	2.50	
Diplomas	95.47	
Globes	197.87	
Amounts carried forward	$13,066,39	$13,765,00

Amounts brought forward	$13,006.39	$13,765.00
Magnifiers	24.71	
Postage	3.30	
Printing	361.67	
Pitch-pipes	15.00	
Ruling	24.33	
Ribbons	17.63	
Slates	164.50	
Supplies	34.35	
Scales and measures	29.76	
Thermometers and dividers	10.44	
Tuning pianos	16.00	
Telegram	.39	
As per item No. 31 of expenses		13,708.47
Balance unexpended		$56.53

School-Houses (Care and Repairs).

Amount appropriated	$30,000.00
Add amounts transferred to	2,800.00
	$32,800.00

RECEIVED.

For old iron, as per item No. 27 of receipts	$4.00

EXPENDED.

For Black-boards and repairs	$257.59	
Bricks	3.00	
Care of ward-room school	39.00	
Carpets, beating	4.88	
Carting furniture	29.50	
Cleaning	16.00	
Clocks and repairs	33.75	
Cups and mugs	7.17	
Cutting grass	47.50	
Desks	267.05	
Disinfectants	23.00	
Door-check	.75	
Amounts carried forward	$729.19	$32,800.00

	Amounts brought forward . . .	$729.19	$32,800.00
For	Doors	9.35	
	Drain repairs	60.00	
	Examination of boiler	.70	
	Examination of drain	.80	
	Expressage	2.25	
	Flushing vaults	15.90	
	Fuel	7,246.74	
	Furniture and repairs	511.20	
	Gas	330.63	
	Gong bell, repairs	41.50	
	Grading yard and gravel	141.08	
	Hardware and tools	316.98	
	Hose	6.85	
	Ink wells	79.22	
	Janitors	11,182.92	
	Keys and locks	10.25	
	Lumber	420.31	
	Mats and repairs	200.54	
	Piano	150.00	
	Piano cover	2.75	
	Plank walk	17.60	
	Repairs: —		
	Carpenter work . . . $2,020.59		
	Gas piping and fitting . 16.89		
	Heating apparatus . . 1,520.73		
	Lightning rods . . . 23.00		
	Mason work 1,948.02		
	Painting and glazing . 555.24		
	Plastering 270.16		
	Plumbing 1,273.26		
	Roof 409.95		
	General 491.73		
		8,529.57	
	Removing double windows . . .	1.80	
	Repairing wheelbarrow	1.50	
	Rolling yards	15.00	
	Screen	2.50	
	Amounts carried forward . .	$30,027.13	$32,800.00

Amounts brought forward . . .	$30,027.13	$32,800.00
For Shades and shade fixtures . . .	56.81	
Snow guards	866.22	
Step ladder	2.00	
Supplies (brushes, dusters, etc.) .	239.24	
Teaming	35.50	
Thawing pipes	5.47	
Urinals	204.00	
Vault	97.00	
Water	866.30	
Window tighteners	261.35	
As per item No. 32 of expenses		32,661.02
Balance unexpended		$138.98

School Houses, (New, and Furniture.)

Amount appropriated		$9,500.00
Add amount transferred to		8,667.71
		$18,167.71
EXPENDED.		
For Extra work on the Wellington school-house	$167.71	
Copying specifications for Webster school-house	2.62	
Plumbing	1,218.68	
Plans and oversight	200.00	
Angus McInness, on account of contract to enlarge Webster school-house	10,000.00	
As per item No. 33 of expenses		11,589.01
Amount unexpended		$6,578.70

School-Houses (New, and Furniture, High School).

Amount appropriated		$14,000.00
EXPENDED.		
For the Lee-street church property, as per item No. 34 of expenses		6,500.00
Amount unexpended		$7,500.00

Sewers (Construction).

Amount appropriated		$11,500.00
Estimated revenue		11,000.00
		$22,500.00
Additional appropriation (excess of revenue)		1,390.42
		$23,890.42
Deduct amount transferred from		3,000.00
		$20,890.42
Add amounts transferred to		4,200.00
		$25,090.42
RECEIVED.		
For Assessments as per item No. 28 of receipts	$12,390.42	
EXPENDED.		
For Bricks	$2,271.65	
Catch-basins	546.14	
Carpenter work	47.16	
Castings	512.47	
Car-tickets	5.00	
Carriage hire	5.00	
Cement	632.50	
Drain pipe	4,186.22	
Expressage	1.15	
Fittings for boiler	3.35	
Fuel	252.16	
Hardware, tools, and repairs	56.30	
Labor, as per pay-rolls	10,830.34	
Lumber	832.91	
Overseer	622.49	
Piles	311.22	
Settlement for damages	300.00	
Stone paving	46.62	
Stone work and stone	114.00	
Supplies	38.42	
Teaming	1,200.31	
Use of engine, machine, and pumps	1,139.00	
As per item No. 35 of expenses		23,954.41
Amount unexpended		$1,136.01

Sewers (Maintenance.)

Amount appropriated	$10,600.00
Estimated revenue	1,900.00
	$12,500.00
Add amounts transferred to	5,000.00
	$17,500.00
Deduct amount transferred from	200.00
	$17,300.00

RECEIVED.

For Damages to level-rod	$ 1.71	
Gate chamber	15.05	
Manure	4.50	
Somerville's proportion for dredging Bridge Street sewer ($\frac{5}{9}$)	1,335.16	
Repairing Mill Pond gate	16.81	
" paving	2.58	
Relaying drain	18.03	
Repairing sewer	3.68	
" catch-basins	107.67	
Sale of metal	30.00	
Stone	17.50	
Use of engine	45.00	
Work at Waltham	50.46	
Work at drinking fountain	34.51	
As per item No. 29 of receipts	$1,682.66	

EXPENDED.

For Bricks	$740.30	
Boots and repairs	56.00	
Car-tickets	18.55	
Carpenter work	88.10	
Castings	159.50	
Cleaning catch-basins	907.62	
Carpet and rugs	8.78	
Court expenses	11.25	
Amounts carried forward	$1,990.10	$17,300.00

	Amounts brought forward	$1,990.10	$17,300.00
For	Covering stone	56.00	
	Canvas covering	28.05	
	Cement	504.30	
	Drain-pipe	494.87	
	Damages to crops	10.00	
	Dredging Bridge Street sewer	2,120.00	
	Expressage	.30	
	Fuel	94.07	
	Filling	100.00	
	Grease, axle	.30	
	Hardware, tools, and repairs	476.82	
	Harness repairs	34.50	
	Hay and grain	261.27	
	Horse-hire	10.50	
	Horse cover	2.00	
	Horse medicine	3.65	
	Horse-shoeing	68.75	
	Hydrant repairs	37.32	
	Hose (leather)	100.00	
	Labor, as per pay-rolls	7,298.00	
	Lumber	335.81	
	Mirror plate	.70	
	Mason's hod	4.00	
	Manilla rope	24.09	
	Mason work	2.25	
	Oiled clothing	17.25	
	Overseer	879.01	
	Painting	31.94	
	Piles, teaming, and driving	276.68	
	Repairing cesspools and drains	43.50	
	" engine	1.80	
	Sand, stone, and gravel	67.50	
	Supplies	24.60	
	Stationery	8.25	
	Teaming	916.71	
	Use of engine and pump	418.00	
	Vassaline	.25	
	Amounts carried forward	$16,743.14	$17,300.00

Amounts brought forward . . .	$16,743.14	$17,300.00
Veterinary surgeon	39.00	
Wagon repairs	89.75	
Whitewashing	2.00	
Water for shop and stable	23.30	
" " flushing sewers	92.80	
" off and on	1.00	
As per item No. 36 of expenses		16,990.99
Balance unexpended		$309.01

Shade-trees and Public Grounds.

Appropriation		$4,000.00
Additional appropriation (excess of revenue) . .		115.50
		$4,115.50
Transferred from		71.40
		$4,044.10

RECEIVED.

For Trees	$12.00	
Trimming trees	40.00	
Cutting down trees	16.00	
Cleaning school-house yard . . .	47.50	
As per item No. 30 of receipts	$115.50	

EXPENDED.

For Fares	$ .08	
Hardware	6.22	
Lawn-mowers	32.55	
Ladders	16.50	
Labor, as per pay-rolls	3,425.90	
Lumber	8.61	
Manure	426.25	
Plants	52.50	
Poles	2.00	
Repairing pump	2.45	
" fence	6.00	
" wagon	16.87	
Rolling grass	16.25	
Rope	1.75	
Amounts carried forward	$4,013.93	$4,044.10

Amounts brought forward	$4,013.93	$4,044.10
As per item No. 37 of expenses		4,013.93
Balance unexpended		$30.17

Sinking Funds (Commissioners of).

Amount of funds, Nov. 30, 1884		$590,196.54
RECEIVED.		
From City Treasurer, amount appropriated by City Council	$76,225.00	
Amount of fund overdue for 1884 .	35,040.00	
From interest accumulations to Nov. 30, 1885	34,585.50	
		145,850.00
		$736,047.04
EXPENDED.		
For Interest	$887.84	
Premiums	3,205.00	
Bridge Loan	26,000.00	
Building Loan	17,000.00	
Funding Loan	24,000.00	
Low Land Loan	122,000.00	
		193,092.84
Amount of funds, Nov. 30, 1885		$542,954.20

Sinking Fund of Water Works (Trustees of).

Amount of fund, Nov. 30, 1884		$787,161.56
RECEIVED.		
Amount of revenue transferred from Water Works, rates, fines, etc. . .	$52,785.00	
Interest accumulations	38,542.14	
		91,327.14
		$878,488.70
EXPENDED.		
For Interest on Bonds purchased . .	$579.07	
Premiums on Bonds purchased .	3,536.25	
		4,115.32
Amount of fund Nov. 30, 1885		$874,373.38

State Aid.

Appropriation		$ 1,200.00
Estimated revenue		10,800.00
		$12,000.00
Add amount transferred to		397.00
		$12,397.00

RECEIVED,

For Allowance from Commonwealth	$11,323.00	
Reimbursement from other cities and towns	1,305.00	
As per item No, 32 of receipts	$12,628.00	

EXPENDED.

For Military aid	$9,312.50	
Indigent aid	2,729.00	
Clerical assistance	307.50	
Aid to Carl Meyer of Chicopee	48.00	
As per item No, 41 of expenses		$12,397.00

Stationery and Printing.

Amount appropriated		$3,500.00

EXPENDED.

For Stationery	$1,194.79	
Printing	1,755.68	
As per item No. 42 of expenses		2,950.47
Amount unexpended		$549.53

Street Department (Paving).

Appropriation	$11,000.00
Additional appropriation (excess of revenue)	473.60
Estimated revenue	2,000.00
Transferred to	420.89
Amount carried forward	$13,894.49

Amount brought forward		$13,894.49
RECEIVED.		
For Bricks	$249.48	
Driveways	199.84	
Edge-stones	145.97	
Gravel	10.50	
Paving blocks	28.12	
Labor	104.00	
Sidewalk assessments	1,527.92	
Stone	207.77	
As per item No. 33 of receipts	$2,473.60	
EXPENDED.		
For Advertising	$31.75	
Bricks	1,309.40	
Cement	12.00	
Edge-stones	595.43	
Granite blocks	5,101.20	
Labor, as per pay rolls	6,079.75	
Lumber	8.00	
Oil	5.89	
Re-setting bulkhead	27.75	
Screens	19.85	
Supplies	1.57	
Teaming	689.50	
Tools	12.40	
As per item No. 43 of expenses		13,894.49
Street Department (Repairs).		
Appropriation		$84,000.00
Additional appropriation		4,968.17
" "		955.85
		$89,924.02
Estimated revenue		1,000.00
		$90,924.02
RECEIVED.		
For Ashes	$82.60	
Bricks	21.60	
Amounts carried forward	$104.20	$90,924.02

Amounts brought forward	$104.20	$90,924.02
Curbing	5.00	
Chopping-block	9.00	
Damage to wagon	3.75	
Gravel	4.50	
Grading	4,968.17	
Old iron	31.77	
Old plank	19.50	
Old stable	96.00	
Manure	430.25	
Release of gravel bank	500.00	
Repairing sea wall	7.50	
Sand	3.00	
Scrapings	502.60	
Sign-posts	7.30	
Screenings	4.50	
Stone	154.25	
Use of cart	24.75	
One-half widening bridge from Arlington	91.26	
As per item No. 34 of receipts	$6,967.30	

EXPENDED.

For Advertising	$24.13	
Block and tackle	23.84	
Car-tickets	10.00	
Carriage hire	12.00	
Castings	46.91	
Carpenter work	8.67	
Cement	46.80	
Directory	2.50	
Expressage	16.75	
Fuel	200.20	
Freight	10.19	
Furniture	17.00	
Fire bricks	6.38	
Gravel	6,232.20	
Gas	129.72	
Amounts carried forward	$6,787.29	$90,924.02

	Amounts brought forward . . .	$6,787.29	$90,924.02
For	Gas-piping	11.31	
	Grease	10.62	
	Hardware, tools, and repairs . . .	552.02	
	Horses	675.00	
	Horse medicines	30.82	
	Horse brushes and combs	57.50	
	Horse post	4.50	
	Horse-hire	20.00	
	Hay and grain	4,473.87	
	Harnesses and repairs	376.80	
	Iron and steel	173.69	
	Iron work	39.89	
	Labor, pay rolls, { Regular, $35,838.62 / Transient, 17,523.25 }	53,361.87	
	Lanterns and torch	68.67	
	Lumber	1,239.23	
	Leather dressing	2.50	
	Machine work, planing, etc. . . .	193.48	
	Mason work	22.12	
	Old iron	2.88	
	Oil and soap	57.65	
	Oak plank.	84.32	
	Painting pung	11.50	
	Piping	19.89	
	Packing	3.00	
	Printing	4.50	
	Plumbing	2.50	
	Painting and making signs . . .	255.95	
	Ploughs and repairs	88.35	
	Removing fountain	41.74	
	Rolling streets	190.00	
	Repairing wagons	155.12	
	" clock	1.00	
	" lock	.35	
	" stand-pipe	18.37	
	" oil can	.15	
	" Alewife Brook bridge .	14.13	
	Amounts carried forward	$69,052.58	$90,924.02

	Amounts brought forward . . .	$69,052.58	$90,924.02
For	Rent of land on Norfolk street . .	250.00	
	Superintendent, salary of	1,700.00	
	Steam-piping	17.63	
	Scales	100.00	
	Stone	4,562.15	
	Supplies	42.53	
	Spars	8.00	
	Saw dust	5.75	
	Salt	9.09	
	Teaming	14,835.92	
	Telephone rent	20.00	
	Veterinary surgeon	18.00	
	Water for stable	67.00	
	" " rolling streets	226.36	
	Wheels	9.01	
	As per item No. 44 of expenses		90,924.02

Street Department (New Stable).

Appropriation		$14,200.00
EXPENDED.		
For Building stable, as per contract with John McDonald	12,066.00	
Extra work	816.11	
Advertising proposals	4.50	
Printing specifications	17.50	
Piping	65.00	
Cambridge Water Works for fittings	16.00	
Architect, Jas. Fogerty	600.00	
Copper work	53.00	
Changing gas-pipes	7.00	
Gas-fittings	7.54	
Apparatus for hoisting	25.35	
Hardware	81.42	
Lettering	5.40	
Lumber	79.65	
Mason work	170.00	
Plumbing	64.62	
Amounts carried forward	$14,079.09	$14,200.00

Amount brought forward	$14,079.09	$14,200.00
Shellac and varnish	26.35	
Stoves	50.83	
Tarring basement	25.00	
Wheels	7.25	
Windows and doors	10.68	
As per item No. 45 of expenses		14,199.20
Amount unexpended		.80

Street Department (Watering).

Amount appropriated		$11,500.00
Additional appropriation (excess of revenue)		906.50
		$12,406.50
Estimated revenue		9,500.00
		$21,906.50
Less amount transferred from		349.49
		$21,557.01

RECEIVED.

For Watering streets, as per item No. 35 of receipts	$10,456.75

EXPENDED.

For Advertising	$5.00	
Carts	2.557.00	
Carts, repairs of	19.00	
Castings	3.18	
Hose	37.00	
Hardware	3.47	
Iron	56.37	
Labor, watering streets	14,355.60	
Lumber (oak plank)	22.04	
Paint and varnish	4.10	
Repairing sprinklers	37.70	
" valve	.50	
Springs and repairs	105.42	
Stand pipes and repairs	93.66	
Water	4,256.97	
As per item No. 46 of expenses		21,557.01

Street Department (Widening).

Amount appropriated		$3,500.00
EXPENDED.		
For Land, corner Bridge and Gore Streets	$1,300.00	
Land of J. Mason Brooks	1,100.00	
Damage to Odd Fellows Hall Association	1,100.00	
As per item No. 47 of expenses		$3,500.00

Surrendered Estates (Sale Account).

RECEIVED.

From sales of estates as per item No. 36 of receipts	$9.824.84

Tax (Corporation).

RECEIVED.

From the Commonwealth, for the year 1885, as per item No. 37 of receipts	$46,015.75

Tax (National Bank).

RECEIVED.

From the Commonwealth for 1885, as per item No. 38 of receipts	$17,117.34
EXPENDED.	
Amount paid the Commonwealth for 1885, as per item No. 48 of expenses.	4,876.44
Net receipts	$12,240.90

Tax (County).

Amount paid the County of Middlesex, for the year 1885, as per item No. 50 of expenses	$29,381.54

Tax (State).

Amount paid the Commonwealth, for the year 1885, as per item No. 49 of expenses	$44,835.00

Taxes of 1880.

Amount uncollected November 30, 1884	$7,787.28
RECEIVED.	
From sundry persons, as per item No. 39 of receipts	184.00
Balance uncollected, Nov. 30, 1885	$7,603.28

Taxes of 1881.

Amount uncollected, Nov. 30, 1884	$9,427.49
RECEIVED.	
From sundry persons, as per item No. 40 of receipts	110.40
Balance uncollected, Nov. 30, 1885.	$9,317.09

Taxes of 1882.

Amount uncollected, Nov. 30, 1884	$8,897.18
RECEIVED.	
From sundry persons, as per item No. 41 of receipts	1,093.96
Balance uncollected, Nov. 30, 1885	$7,803.22

Taxes of 1883.

Amount uncollected, Nov. 30, 1884	$13,768.41
RECEIVED.	
From sundry persons, as per item No. 42 of receipts	4,605.16
Balance uncollected, Nov. 30, 1885	$9,163.25

Taxes of 1884.

Amount uncollected, Nov. 30, 1884,	$79,726.52
Amount of assessors' supplemental warrants	640.88
	$80,367.49
RECEIVED.	
From sundry persons, as per item No. 43 of receipts	69,914.38
Balance uncollected, Nov. 30, 1885	$10,453.02

Taxes of 1885.

Amount of assessors' original warrant	$894,595.85
" " " supplemental warrant	416.21
	$895,012.06
RECEIVED.	
From sundry persons, as per item No. 44 of receipts	830,676.76
Balance uncollected, Nov. 30, 1885	$64,335.30

Tax Lien Account.

Paid Nov 30, 1884	$17,691.02

RECEIVED

For release of tax-titles as per item No 45 of receipts	80.15
Balance paid to Nov 30, 1885	$17,610.87

Water Works (Construction).

Appropriation	$15,000.00

EXPENDED.

For Bridge for water pipes at Mt. Auburn bridge	$347.03	
Castings	61.28	
Freight, on pipes	177.62	
Freight, on stone	235.00	
Galvanized pipe	163.25	
Hydrants	441.00	
Labor, as per pay-rolls	2,556.75	
Lead	156.94	
Meters	1,313.53	
Packing	38.09	
Pipe-fittings	82.11	
Water pipes	3,004.70	
Teaming	742.75	
Valves	05.60	
Water gates	382.00	
Wharfage	10.00	
	$9,817.65	
Add amount to be charged to construction from Stony Brook account	2,573.63	
As per item No. 51 of expenses		12,391.28
Amount unexpended		$2,608.72

Water Works (Maintenance).

Appropriation		$30,000.00
	EXPENDED.	
For Analysis of water	$5.00	
Advertising	10.71	
Boots, and repairs	8.35	
Blanket and robe	10.75	
Belting, and repairs	15.99	
Carpenter work	467.71	
Car-tickets and fares	164.41	
Castings	348.77	
Care of lanterns	23.25	
Carriage, barge and horse-hire	95.50	
Cement	2.80	
Connecting catch-basins and fountain with sewer	31.26	
Cocks, couplings, fittings, and repairs	340.77	
Directory	2.50	
Damage to horse	25.00	
Expressage	98.76	
Fuel	4,464.32	
Gas	92.50	
Gas-piping and fittings	21.97	
Gate chamber	15.05	
Gaskets	17.25	
Gravel	1.00	
Hose and repairs	43.00	
Hand-stamp	5.00	
Horse	125.00	
Hydrants and hydrant boxes	407.50	
Hardware, tools, and repairs	612.99	
Harness repairs	35.08	
Horse-shoeing	135.56	
Horse medicines	4.33	
Hay and grain	467.09	
Keys	1.25	
Amounts carried forward	$8,100.42	$30,000.00

Amounts brought forward . .	$8,100.42	$30,000.00
Lumber, ...	47.34	
Labor, as per pay-rolls, ...	10,088.19	
Medical aid for injured man . .	8.00	
Meter, repairs	306.27	
Matting	27.95	
Machinist work	74.38	
Mason work	264.42	
Newspapers	16.50	
Oil and lanterns	123.41	
Plumbing	163.74	
Painting and glazing	234.59	
Printing	14746	
Piping	37.20	
Pump	49.26	
Pipe jointers	35.00	
Packing	69.81	
Posts	2.00	
Prints of chronograph	10.00	
Polish for brass	2.00	
Pulleys	12.60	
Rent of wharf	50.00	
Roller	10.00	
Rent of office and shop	600.00	
Refreshments	55.05	
Repairing valves	5.13	
" boilers	467.18	
" engine	41.45	
Robe, exchange of	2.00	
Rope	35.57	
Salary of superintendent	2,000.00	
" registrar	1,525.00	
foreman	1,085.00	
" clerk of board	200.00	
" office clerk	313.00	
" engineer	1,500.00	
Supplies	77.86	
Stationery	120.42	
Amounts carried forward . . .	$27,787.78	$30,000.00

	Amounts brought forward . . .	$27,787.78	$30,000.00
For	Stand-pipes	353.00	
	Stove	20.20	
	Sealing scales	1.12	
	Stable (raising)	25.00	
	Stable at yard	890.57	
	Teaming	281.18	
	Tags	2.50	
	Tin pipe	16.00	
	Thawing pipe	10.20	
	Telegrams	1.78	
	Veterinary surgeon	7.00	
	Wagon, and repairs	346.85	
	Witness	3.00	
	Waste	13.40	
	Work on fountain	34.51	
	As per item No, 50 of expenses		29,914.51
	Balance unexpended		$85.49

Water Works (Rates, Fines, etc.).

RECEIVED,

For rates, fines, etc., as per item No. 46 of receipts		$187,252.64
Deduct amount carried to interest on Water Loan	$92,725.00	
Deduct amount carried to Sinking Fund of Water Works	52,785.00	
Deduct amount carried to Water Works, maintenance	29,914.51	
Deduct amount carried to Water Works, construction	12,391.28	
	$187,815.79	

EXPENDED.

Deduct amount for Water Rates refunded, as per item No. 53 of expenses . .	$1,260.78	189,076.57
Excess of expenditure		$1,823.93

Water Works (Supplies).

RECEIVED.

For supply pipes and fittings, as per item No. 47 of receipts	$6,250.55

EXPENDED.

For labor, as per pay-rolls	$1,915.02	
Pipe fittings, etc.	2,576.95	
As per item No. 54 of expenses		4,491.97
Unexpended balance		$1,758.58

Water Works (Construction, Stony Brook.)

ADDITIONAL WATER SUPPLY.

Amount unexpended last year	$287,380.26
Additional appropriation, being premium and interest from sale of Bonds in 1884 and 1885	20,185.87
	$307,566.13

RECEIVED.

For Premium on Bonds, as per item No. 48 of receipts	$19,566.13

EXPENDED.

For Advertising	$38.00	
Ballasting pipe line	3,033.75	
Blocks and wedges	448.88	
Boring apparatus, use of	110.00	
Borings	200.00	
Boundary stones	30.00	
Bricks	149.25	
Building dam, Kiernan & Grace . .	373.28	
" " H. H. Pike & Son	28,097.57	
Canvas	43.88	
Carpenter work	40.01	
Care of lanterns	43.50	
Car-fares and refreshments	2,759.91	
Carriage-hire	222.00	
Amounts carried forward . . .	$35,590.03	$307,566.13

	Amounts brought forward . .	$35,590.03	$307,566.13
For	Carting pipe	242.47	
	Castings	244.37	
	Catch-basin and chamber	50.46	
	Cement	42.90	
	Cement tester	35.00	
	Cleaning office	.75	
	Cleaning private way	72.25	
	Copy of plan	2.00	
	Culvert alterations	779.62	
	Damage for stopping of mill . .	229.24	
	Drain pipe	32.52	
	Driving piles	354.82	
	Empty barrels	2.25	
	Engraving bonds	725.00	
	Excavating for line of pipes . . .	664.96	
	Expressage	.51	
	Fitchburg R. R., labor laying pipe .	39.70	
	Freight on pipes	4.34	
	Fuel	573.30	
	Gas-fittings	70.47	
	Gate box	5.00	
	Grading pipe line, J. J. & T. F. Maney	18,528.90	
	Grading pipe line, John Brasil . .	356.24	
	Grate and frame	7.50	
	Gravel	266.80	
	Hardware, tools, and repairs . . .	532.85	
	Harness	35.00	
	Iron beams as supports for pipes .	31.88	
	Labor, as per pay-roll (engineers) .	8,188.45	
	" " " " (laborers) . .	34,576.11	
	" " " " (laborers, Fresh Pond)	1,943.37	
	Labor, carting at Fresh Pond . . .	961.92	
	Lanterns and oil	20.45	
	Lead	6,411.55	
	Legislative expenses	700.00	
	Amounts carried forward . . .	$112,322.98	$307,566.13

Amounts brought forward . . .	$112,322.98	$307,566.13
Lumber	454.30	
Mason work	274.90	
Moving coal	44.32	
Packing	280.04	
Plumbing	34.02	
Police, special	532.48	
Posts	45.00	
Powder	71.65	
Printing	132.50	
Pumps and machine work	1,713.97	
Pump house	230.00	
Reading guage at Stony Brook . .	49.90	
Repairing fence	10.00	
Reporting, short hand	484.17	
Right of way through Waltham cemetery	5,000.00	
Right of way through Stickney estate	300.00	
Rolling truck	5.00	
Sand	4.00	
Scale	6.00	
Scully & Gill, contract for preparing basin at Roberts' mill	7,047.05	
Serving notices	24.00	
Stakes	.75	
Stone	12.25	
Stone, (covering,) and labor . . .	64.40	
Stone work	13.00	
Supplies	116.84	
Surveys	53.30	
Tarred pipe	1.50	
Teaming	1,984.35	
Telegrams	4.73	
Use of boat	15.00	
Use of derrick, &c	154.00	
Valve, rubber, and repairs	11.00	
Water	31.66	
Amounts carried forward . .	$131,529.06	$307,566.13

	Amounts brought forward . .	$131,529.06	$307,566.13
For	Water pipes	150,849.40	
	Water-gates	4,354.50	
	Water pipes, laying	7,652.56	
	Work on gas-pipes	42.50	
	Work at Roberts' mill	93.11	
	Working pump	175.00	
		$294,696.13	
Deduct bills carried to Water Works, (construction)		2,573.63	
As per item No, 55 of expenses			292,122.50
	Balance unexpended		$15,443.63

Taxes.

The amount of taxes assessed by the Board of Assessors, on the real and personal estates and polls of Cambridge, for the year 1885, was as follows: —

Valuation of real estate	$42,588,300
Valuation of personal estate	12,758,255
	$55,346,555
Assessed at $15,50 per $1,000, gives	$857,871.60
16,033 polls, at $2,00	32,066.00
12 polls of women, at 50 cents	6.00
Bank stock (non-residents separately assessed) . .	4,652.25
	$894,595.85

This tax is divided as follows: —

For	County assessments	$29,381.54
	State assessments	44,835.00
	State charge for non-resident bank stock . .	4,652.25
	City purposes[1]	804,800.00
	Overlay	10,927.06
		$894,595.85

1 To meet the city expenses, the income from various departments is added to this sum raised by taxation.

Increase in the sumber of polls since last year . .	641
641 polls, at $2.00 each, ...	$1,282,00
Increase in personal valuation	498,764,00
Increase in real estate valuation	1,299,100,00
Total gain in valuation since last year . . .	$1,799,146,00
Number of houses in 1885	9,106
" " in 1884	8,781
' " built during the past year . .	325
Number of horses assessed	4,168
" cows "	373
" swine "	53

Statement of the valuations of the personal property and real estate of the City of Cambridge, with the number of polls, dwellings, and rate of taxation for the past eight years:

Year.	Polls.	Personal.	Real Estate.	Total.	Dwellings.	Rate per $1,000
1878	11,556	$12,067,440	$37,547,700	$49,615,140	8,037	$18.00
1879	11,892	11,892,898	37,345,200	49,238,098	8,137	17.00
1880	12,644	11,699,660	37,929,400	49,629,060	8,165	16.00
1881	13,678	12,401,390	38,691,900	51,093,290	8,331	16.00
1882	13,922	11,577,080	39,091,200	50,668,280	8,489	16.60
1883	14,870	11,975,640	39,821,700	51,797,340	8,572	16.40
1884	15,399¼	12,259,491	41,289,200	53,548,691	8,781	16.80
1885	16,036	12,758,255	42,588,300	55,346,555	9,106	15.50

Abatement and discounts upon taxes for the past eight years:

Year.	Total Tax.	Total Abatement.	Total Discounts at four per cent.	Amount of tax uncollected Dec.1, each year.	Amount uncollect'd Dec. 1, 1885.
1878	$935,227.04	$26,799.82	$30,061.05	$127,739.86	$7,086.67
1879	869,395.00	30,577.37	29,305.80	95,352.28	8,255.52
1880	826,079.23	17,142.79	28,383.13	72,534.65	7,603.28
1881	850,730.61	12,958.90	30,029.45	68,562.84	9,317.09
1882	873,793.41	12,230.20	30,783.78	64,448.68	7,803.22
1883	885,938.96	14,784.62	31,188 00	67,482.66	9,163.25
1884	937,938.64	11,210.31	32,926.83	79,726.52	10,463.02
1885	895,012.06	14,174.11	31,781.78	64,335.30	64,335.30

Number of liquor licenses granted in Cambridge from 1875 to 1885 inclusive, and the amounts received for the same :—

Year.	No. of Licenses	Amounts received.	Year.	No. of Licenses	Amounts received.
1875	208	$25,125	1881	155	$19,675
1876	155	18,125	1882	105	18,625
1877	165	26,475	1883	200	32,425
1878	169	22,042	1884	212	35,025
1879	127	15,504	1885	314	43,575
1880	170	21,375			

Temporary loans for the past eight years, and interest paid upon the same:—

Year.	Temporary Loan.	Interest paid upon the Loan.
1878	$445,000	$10,652.84
1879	352,000	7,230.20
1880	350,000	6,660.94
1881	575,000	9,933.48
1882	525,000	9,720.05
1883	600,000	14,880.25
1884	540,000	15,795.37
1885	300,000	13,790.52

REPORT

OF

THE CITY TREASURER.

OFFICE OF CITY TREASURER, Dec. 1, 1885.

To the Honorable the City Council:

THE undersigned respectfully presents the annual report of the transactions of the City Treasury for the year ending Nov. 30, 1885. The detailed report hereto appended shows that the

Cash balance in the treasury Nov. 30, 1884, was	$109,444.46
The amount received during the year ending November 30, 1885, was	2,414,057.55
	$2,523,502.01
The authorized payments during the year amounted to . .	2,374,887.25
Leaving a balance in the treasury, Nov. 30, 1885, of	$148,614.76

In addition to this balance the treasurer holds as a special trust account the sum of $16,000, to meet that amount of City and Water bonds, due in the years 1883 and 1884, not yet presented for payment.

Respectfully submitted,

WM. W. DALLINGER, *City Treasurer.*

City of Cambridge in Account Current from Dec. 1, 1884, to

Dr.

To authorized payments charged to City Accounts, as follows:—

Abatements and Discounts	$45,955.89
Bridges	5,246.29
Bridges (West Boston, Craigie's and Prison Point)	7,001.14
Cambridge Public Library	6,679.85
Cambridge Cemetery	80,630.58
Cemetery Fund	2,450.00
Engineering	6,358.46
Fire Department	58,233.16
Health Department	2,715.58
Incidental Expenses	47,471.74
Interest	131,646.45
Interest on Water Loan	92,725.00
Lighting Streets	32,152.54
Loan, Funding	25,000.00
Loan, Water	2,000.00
Loan, Building	17,000.00
Loan, Low Land	136,000.00
Loan, Temporary	300,000.00
Loan, Bridge	26,000.00
Loan, Taxes 1885	171,000.00
Pauper Department	21,725.47
Pauper Department (Almshouse)	21,158.25
Pauper Department (House Offal)	13,619.61
Police Department	78,118.07
Salaries	23,666.88
School Department (Evening Schools)	1,339.72
School Department (Drawing Schools)	936.85
School Department (Incidental Expenses)	641.97
School Department (Salaries)	159,584.88
School Department (Text-Books and Stationery)	13,776.58
School-Houses (Care and Repairs)	33,266.09
School-Houses (New and Furniture)	17,314.39
Sewers (Construction)	23,982.65
Sewers (Maintenance)	17,357.96
Shade-Trees and Public Grounds	4,281.35
Sinking Funds	111,265.00
Sinking Fund of Water Works	52,785.00
State Aid	12,470.75
Stationery and Printing	3,245.46
Street Department (Paving)	15,796.47
Street Department (Repairs)	106,395.77
Street Department (Widening)	2,400.00
Street Department (Watering)	21,771.78
Tax (National Bank)	4,876.44
Tax (County)	27,496.80
Tax (State)	44,835.00
Water Works (Construction)	305,575.32
Water Works (Maintenance)	33,232.27
Water Works (Rates, Fines, etc.)	1,260.78
Water Works (Supplies)	4,443.01
Total payments	$2,374,887.25
Cash balance in the treasury, Nov. 30, 1885	148,614.76
	$2,523,502.01

NOV. 30, 1885, (INCLUSIVE) WITH WM. W. DALLINGER, *City Treasurer.*

Cr.

By Cash received and credited to City Accounts as follows: —

Bridges	$31.18
Bridges (West Boston, Craigie's and Prison Point)	289.77
Cambridge Public Library	2,794.99
Commissioners of Sinking Funds	189,000.00
Cambridge Cemetery	17,906.20
Cemetery Fund	1,450.00
City Lands	1,898.95
Engineering	5.00
Fire Department	289.25
Incidental Expenses	57,679.00
Interest	5,116.18
Interest on Water Loan	1,466.67
Lighting Streets	41.29
Loan, Municipal	200,000.00
Loan, Water	288,000.00
Loan, Cambridge Cemetery	65,000.00
Loan, Temporary	300,000.00
Loan, High School	6,500.00
Notes Receivable	10,861.11
Pauper Department	4,673.32
Pauper Department (Almshouse)	7,030.59
Pauper Department (House Offal)	7,354.36
Police Department	6,043.84
School Department (Incidental Expenses)	.40
School Department (Salaries)	1,103.95
School Department (Text-Books and Stationery)	111.21
School-Houses (Care and Repairs)	4.00
Sewers (Construction)	12,390.42
Sewers (Maintenance)	1,682.66
Shade-Trees and Public Grounds	115.50
State Aid	12,628.00
Street Department (Paving)	2,473.60
Street Department (Repairs)	6,967.30
Street Department (Watering)	10,456.75
Surrendered Estates (Sale Account)	9,824.84
Tax (Corporation)	46,015.75
Tax (National Bank)	17,117.34
Taxes, 1880	184.00
Taxes, 1881	110.40
Taxes, 1882	1,093.96
Taxes, 1883	4,605.16
Taxes, 1884	69,914.38
Taxes, 1885	830,676.76
Tax Lien Account	80.15
Water Works (Construction)	19,566.13
Water Works (Rates, Fines, etc.)	187,252.64
Water Works (Supplies)	6,250.55
Total receipts	$2,414,057.55
Cash balance in the treasury, Dec. 1, 1884	109,444.46
	$2,523,502.01

WM. W. DALLINGER, *City Treasurer.*

REPORT

OF THE

COMMISSIONERS OF THE SINKING FUNDS OF THE CITY OF CAMBRIDGE.

To the Honorable City Council: —

THE undersigned, Commissioners of the Sinking Funds of the city, in compliance with the ordinance, herewith present their tenth annual report: —

Dr.

Amount of the funds, Nov. 30, 1884, was . .	$590,196.54	
Amount of interest received during the year on investments	34,585.50	
Amount received from the city of Cambridge derived from taxation and due as of Nov. 30, 1884	35,040.00	
Amount received from the city of Cambridge derived from taxation and due as of Nov. 30, 1885	76,225.00	
		$736,047.04

Cr.

Amount paid the City Treasurer of Cambridge, the whole of said payment being in the bonds of the different loans of the city of Cambridge, which matured July 1, 1885, viz: —		
Funding Loan	$24,000.00	
Bridge Loan	26,000.00	
Building Loan	17,000.00	
Low Land Loan	122,000.00	
Amount paid as accrued interest on bonds purchased for investment	887.84	
Amount paid as premium on bonds purchased for investment	3,205.00	
Present amount of the funds, all securities at par	542,954.20	
		$736.047.04

The funds are now earning an average rate of five per cent.

SECURITIES BELONGING TO THE SINKING FUNDS NOV. 30, 1885.

Cambridge Low Land Loan, six per cent bonds, maturing July 1, 1886	$27,000.00	
Cambridge Street Widening Loan, six per cent bonds, maturing July 1, 1886	3,000.00	
Cambridge City Loan, six per cent bonds, maturing July 1, 1886	1,000.00	
Cambridge Low Land Loan, five per cent bond, maturing Oct. 1, 1887	120,000.00	
Cambridge Sewer Loan, six per cent bonds, maturing July 1, 1896	11,000.00	
Cambridge Street-widening Loan, six per cent bonds, maturing July 1, 1904	90,000.00	
Cambridge Sewer Loan, six per cent bonds, maturing July 1, 1904	2,000.00	
Cambridge Street-widening Loan, six per cent bonds, maturing July 1, 1905	14,000.00	
Cambridge Sewer Loan, six per cent bonds, maturing July 1, 1905	49,000.00	
		$317,000.00
Town of Brookline, $3\frac{65}{100}$ per cent coupon bonds, maturing Feb. 1, 1886	$1,000.00	
Town of Southboro, four per cent bonds, maturing March 26, 1886	2,000.00	
Town of Woburn, five per cent registered bonds, maturing July 2, 1887	20,000.00	
Town of Brookline, $3\frac{65}{100}$ per cent coupon bonds, maturing Feb. 1, 1888	2,000.00	
Town of Brookline, $3\frac{65}{100}$ per cent coupon bonds, maturing Feb. 1, 1889	9,000.00	
Town of Southboro, four per cent bonds, maturing March 25, 1889	2,000.00	
Town of Brookline, $3\frac{65}{100}$ per cent coupon bonds, maturing Feb. 1, 1890	10,000.00	
Town of Brookline, $3\frac{65}{100}$ per cent coupon bonds, maturing Feb. 1, 1891	7,000.00	
City of Cleveland, Ohio, four per cent coupon bonds, maturing Oct. 1, 1891	14,000.00	
Town of Brookline, $3\frac{65}{100}$ per cent coupon bonds, maturing Feb. 1, 1892	9,000.00	
Town of Brookline, $3\frac{65}{100}$ per cent coupon bonds, maturing Feb. 1, 1893	8,000.00	
City of Cleveland, Ohio, four per cent coupon bonds, maturing Oct. 1, 1893	8,000.00	
Town of Brookline, $3\frac{65}{100}$ per cent coupon bonds, maturing Feb. 1, 1894	7,000.00	
Town of Brookline, $3\frac{65}{100}$ per cent coupon bonds, maturing Feb. 1, 1895	1,000.00	
Amounts carried forward	$100,000.00	$317,000.00

Amounts brought forward	$100,000.00	$317,000.00
City of Dayton, Ohio, four per cent coupon bonds, maturing Sept. 1, 1896	9,000.00	
City of Dayton, Ohio, four per cent coupon bonds, maturing Sept. 1, 1897	9,000.00	
City of Dayton, Ohio, four per cent coupon bonds, maturing Sept. 1, 1898	9,000.00	
City of Providence, R. I., 4½ per cent coupon bonds, maturing June 1, 1899	64,000.00	
City of Dayton, Ohio, four per cent coupon bonds, maturing Sept. 1, 1899	9,000.00	
City of Lawrence, Mass., four per cent coupon bonds, maturing July 1, 1904	12,000.00	
City of Dayton, Ohio, four per cent coupon bonds, maturing May 1, 1905	12,000.00	
		224,000.00
Cash in bank		1,954.20
		$542,954.20

The bonded city debt which the foregoing sinking funds are expected to pay matures as follows, viz.: —

July 1, 1886, City Loan bonds	$100,000.00
July 1, 1886, Low Land Loan bonds	60,000.00
July 1, 1886, Street-widening Loan bonds	7,000.00
Oct. 1, 1887, Low Land Loan bonds	120,000.00
Apr. 1, 1889, City Loan bonds	100,000.00
July 1, 1890, City Loan bonds	20,000.00
Jan. 1, 1893, City Loan bonds	150,000.00
July 1, 1893, Land Loan bonds	10,000.00
July 1, 1893, Paving Loan bonds	100,000.00
July 1, 1893, Street Loan bonds	13,000.00
July 1, 1894, Paving Loan bonds	130,000.00
Apr. 1, 1895, Municipal Loan bonds	200,000.00
July 1, 1895, Paving Loan bonds	25,000.00
Oct. 1, 1895, Sewer Loan bonds	20,000.00
July 1, 1896, Sewer Loan bonds	29,000.00
July 1, 1903, Sewer Loan bonds	136,000.00
July 1, 1903, Street-widening Loan bonds	10,000.00
July 1, 1904, Sewer Loan bonds	295,000.00
July 1, 1904, Street-widening Loan bonds	90,000.00
July 1, 1905, Sewer Loan bonds	144,000.00
July 1, 1905, Street-widening Loan bonds	14,000.00
Aug. 1, 1905, Cambridge Cemetery Extension Loan bond	65,000.00
	$1,838,000.00

During the year the floating debt of $206,040.00, has been funded by the issue of $200,000.00 of City Bonds, drawing 4 per

cent interest from April 1, payable in ten years, and bonds to the amount of $65,000.00 of 4 per cents, payable in twenty years from August 1, have been issued on account of the purchase of the Winchester Estate, for cemetery purposes, making an increase of $265,000.00 in the funded debt of the city. Bonds to the amount of $189,000.00 became due July 1, and were paid from this fund. The funded debt of the city, exclusive of the water debt, is now $1,838,000.00, and the present amount of assets of the fund toward its payment, is $542,954.20, leaving the net amount of funded debt of the city, December 1, 1885, $1,295,045.80, showing a net increase of the funded debt since December 1, 1884, of $123,242.34.

In closing our report, we are reminded of the loss sustained by ourselves and the city, in the removal by death of our esteemed associate, Robert Douglass, which occurred February 19, 1885. His faithful service, aided by his careful judgment and sterling integrity, made him a valued associate, and a useful servant of the city, which we are here pleased to record.

Respectfully submitted,

CHAS. H. SAUNDERS,
J. M. TYLER,
J. A. HOLMES,
K. S. CHAFFEE,
FRANK A. ALLEN,

Commissioners of the Sinking Funds of the City of Cambridge.

CAMBRIDGE, Dec. 23, 1885.

REPORT

OF THE

TRUSTEES OF THE SINKING FUND OF THE CAMBRIDGE WATER WORKS.

To the Honorable the City Council:—

THE undersigned, Trustees of the Sinking Fund of the Cambridge Water Works, herewith submit their annual report of the fund committed by law to their charge:—

The amount of the fund Nov. 30, 1884, was . .	$787,161.56	
Amount received during the year as interest on investments	38,542.14	
Amount received during the year from the City of Cambridge, derived from the annual water-rates, and being equal to three per cent on the amount of outstanding water bonds	52,785.00	
		$878,488.70

CONTRA.

Amount paid as accrued interest on securities purchased for investment	$579.07	
Amount paid as premium on securities purchased for investment	3,536.25	
		4,115.32
Leaving the amount of the fund Nov. 30, 1885, all securities taken at par		$874,373.38

The following is a list of the securities belonging to the fund, Nov. 30, 1885:—

Cambridge water loan, six per cent coupon bonds, maturing April 1, 1887	$6,000.00
Cambridge Water Loan, six per cent coupon bonds, maturing April 1, 1888.	25,000.00
Amo unt carried forward	$31,000.00

Amount brought forward	$31,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing May 1, 1889	8,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing July 1, 1890	31,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing May 1, 1891	26,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing July 1, 1892	1,000.00	
Cambridge Water Loan, four per cent coupon bonds, maturing Nov. 1, 1894	6,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing April 1, 1895.	37,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing July 1, 1896	46,000.00	
Cambridge Water Loan, six per cent coupon bonds, maturing July 1, 1897	16,000.00	
Cambridge Water Loan, five per cent registered bond, maturing July 1, 1898	12,500.00	
Cambridge Contingent Loan, four per cent note, dated Dec. 1, 1883	200,000.00	
		$414,500.00
City of Boston, five per cent coupon bond, maturing Jan. 1, 1886.	$1,000.00	
Town of Brookline, $3\frac{65}{100}$ per cent coupon bond, maturing Feb. 1, 1886	1,000.00	
City of Burlington, Vt., six per cent coupon bond, maturing July 1, 1886	500.00	
City of Boston, five per cent coupon bonds, maturing Jan. 1, 1887	2,000.00	
Town of Southboro, four per cent bonds, maturing March 25,1887	2,000.00	
Town of Southboro, four per cent bonds, maturing March 25, 1888	2,000.00	
City of Columbus, Ohio, seven per cent coupon bonds, maturing Aug. 1, 1888	10,000.000	
City of New Bedford, four per cent coupon bonds, maturing Oct. 1, 1889	8,000.00	
Town of Southboro, four per cent bonds, maturing March 25, 1890	6,000.00	
City of Gloucester, $4\frac{1}{2}$ per cent bond, maturing July 1, 1890	5,000.00	
Town of Norwalk, Conn., four per cent coupon bonds, maturing at pleasure of town after Jan. 1, 1891	20,000.00	
Town of Hyde Park, four per cent bonds, maturing July 1, 1891	5,000.00	
Town of Waltham, four per cent coupon bonds, maturing Sept. 1, 1891.	46,000.00	
Amounts carried forward	$108,500.00	$414,500.00

Amounts brought forward	$108,500.00	$414,500.00
City of Salem, four per cent coupon bonds, maturing July 1, 1892	17,000.00	
Town of Stoughton, four per cent coupon bonds, maturing Aug. 10, 1893	2,000.00	
City of Dayton, Ohio, four per cent coupon bonds, maturing Sept. 1, 1893	6,000.00	
City of Keene, N. H., four per cent coupon bonds, maturing July 1, 1894	5,000.00	
Town of Hopkinton, four per cent coupon bonds, maturing Oct. 1, 1894	5,000.00	
City of Fall River, four per cent coupon bonds, maturing May 1, 1895	9,000.00	
City of Keene, N. H., four per cent coupon bonds, maturing July 1, 1895	3,000.00	
Town of Stoughton, four per cent coupon bonds, maturing Aug. 10, 1895	2,000.00	
City of Fall River, five per cent coupon bonds, maturing May 1, 1898	2,000.00	
Town of Arlington, five per cent coupon bonds maturing July 1, 1898.	30,000.00	
City of Boston, four per cent coupon bonds, maturing Jan. 1, 1899	50,000.00	
Town of Pawtucket, five per cent coupon bonds, maturing April 1, 1899	25,000.00	
City of Providence, 4½ per cent coupon bonds, maturing June 1, 1899	21,000.00	
City of Boston, four per cent registered bond, maturing April 1, 1900	4,000.00	
City of Fall River, four per cent coupon bonds, maturing Aug. 1, 1900	13,000.00	
City of Lawrence, four per cent coupon bonds, maturing July 1, 1904	18,000.00	
City of Dayton, Ohio, four per cent coupon bonds, maturing May 1, 1905	50,000.00	
City of Providence five per cent registered bonds, maturing July 1, 1906	50,000.00	
Town of Winchester, four per cent coupon bonds, maturing May 1, 1908	10,000.00	
Town of Beverly, four per cent coupon bonds, maturing July 1, 1911	20,000.00	
		$450,500.00
Cash in First National Bank of Cambridge		9,373.38
		$874,373.38

The bonded water debt, which the foregoing fund is expected to pay, matures as follows, viz.: —

July 2, 1886	$100,000.00
April 1, 1887	150,000.00
April 1, 1888	175,000.00
May 1, 1889	112,000.00
July 1, 1890	60,000.00
May 1, 1891	50,000.00
July 1, 1892	335,000.00
April 1, 1894	150,000.00
Nov. 1, 1894	36,000.00
April 1, 1895	160,000.00
July 1, 1896	103,000.00
July 1, 1897	16,000.00
July 1, 1898	12,500,00
May 1, 1910	288,000.00
	$1,747,500.00

There is little to note in the transactions of the past year beyond the fact that the entire income of the fund has gone to swell the principal, making the fund now what will be its maximum for a good many years. During the next seven years an average amount of $140,000 of our water bonds will mature each year requiring a heavy payment from the principal of this fund. This will be satisfactory for two reasons at least; first, in cancelling so many of our *six per cent* bonds, and second, in relieving the Trustees of the somewhat difficult task of investing its annual income.

Respectfully submitted,

WM. E. RUSSELL,
C. G. H. BENNINK,
WM. W. DALLINGER,
Trustees of the Sinking Fund of the Cambridge Water Works.

REPORT

OF THE

TRUSTEES OF THE DOWSE INSTITUTE.

CAMBRIDGE, MASS., NOV. 30, 1885.

To the Honorable City Council of Cambridge:—

THE Board of Trustees of the Dowse Institute respectfully transmits an attested copy of the accounts of the treasurer, showing the exact amount of receipts and expenditures to date.

Arrangements have been completed for a course of scientific and literary entertainments of the highest character, to be given in Union Hall, Cambridgeport, during the present season.

W. W. WELLINGTON,
FRANK A. ALLEN,
W. A. BULLARD,
WM. E. RUSSELL,
C. G. H. BENNINK,
} *Board of Trustees.*

REPORT

OF THE

TRUSTEES OF THE BRIDGE CHARITABLE FUND.

To the Honorable City Council: —

THE Trustees of the Bridge Charitable Fund, respectfully submit their ninth annual report.

The amount of this fund with interest to Jan. 19, 1885 was . .	$2,412.76
From which deduct the sum of	2,000,00
Balance of accrued interest	$412.76

By the terms of the original bequest of Levi Bridge, the founder of the fund, the sum given by him was to be placed upon interest, which interest was to be added to the principal, "until such time as said fund by the accruing of interest or by gifts from other philanthropic persons shall amount to Two Thousand Dollars, after which time one-third part of the interest of said fund shall be added to the principal annually forever, and the remaining two-thirds of such interest shall be paid over annually to the overseers of the poor for the time being, to be by them expended for the deserving poor of the City of Cambridge, in such manner as they shall deem best."

After the addition of accrued interest to Jan. 19, 1881, the amount of the fund had reached the sum of $2,054.29 and a payment was required by the terms of the bequest to the Overseers of the Poor. The sum due was so small, that it was deemed best to allow the fund to accumulate still further before drawing the

interest, and by mutual agreement between the Overseers of the Poor and the Trustees of the Fund the interest was so allowed to remain.

By vote of the present board of Trustees, passed Jan. 30, 1885, the Mayor was authorized to pay over to the Overseers of the Poor the sum of $275.17, the same being two-thirds of the accrued interest above the sum of $2,000.00 and the amount thus authorized was accordingly paid.

The amount of the fund to Jan. 19, 1885 was	$2,412.76
Less interest due Overseers of the Poor	275.17
Balance in Fund	$2,137.59
Add interest to Jan. 19, 1886	86.34
	$2,223.93
Less ⅔ interest due Overseers of Poor for the year 1885 . . .	57.56
Balance net amount of fund	$2,165.37

This sum remains on deposit at the Cambridgeport Savings Bank.

The history of this fund has been given heretofore, in various annual reports of the Trustees. Its details are interesting as showing the persistent energy with which the venerable donor labored to accumulate the money which became the nucleus of the fund, and the far-reaching benevolence which led him to look forward through the centuries to the welfare of our deserving poor.

WM. E. RUSSELL,
S. S. SLEEPER,
C. G. H. BENNINK,
} *Trustees.*

CAMBRIDGE, Dec. 31, 1885.

REPORT

OF THE

TRUSTEES OF THE SANDERS TEMPERANCE FUND.

To the Honorable City Council:—

The Trustees of the Sanders Temperance Fund present the Twentieth annual report since the establishment of the fund.

The present board of trustees has continued in service the faithful missionary Mr. Alonzo Stewart, and he has labored with his usual earnestness in behalf of the unfortunate ones for whose welfare the fund was established. How far he has succeeded in his efforts may be judged from his annual report which is appended hereto.

It is the confident belief of this board that the missionary has done effective work, and that his good influence is silently felt in many homes.

The fund, as heretofore stated, is represented by a note for the sum of $10,000, which note is held by the City Treasurer and is payable to the order of the Trustees. The interest which, by long established custom, has been fixed at six per cent, is paid to the missionary, the sum so paid amounting to $600 annually.

Wm. E. RUSSELL,
N. C. LOMBARD,
C. G. H. BENNINK,
WARREN IVERS,
JOHN LOCKE,
} *Trustees.*

Cambridge, Dec. 31, 1885.

REPORT

OF THE

SANDERS TEMPERANCE FUND MISSIONARY.

CAMBRIDGE, Dec. 30, 1885.

GENTLEMEN: — The closing year reminds us of the rapid flight of time and incites us to a more earnest performance of duty. What we do for our brother man must be done speedily, for "The night cometh, when no man can work." Of this we have been sadly reminded during the past year, by the death of some of our most valued and honored citizens; they have passed from scenes of usefulness here to their reward on high, leaving to us an increased burden of duties and solemn responsibilities. I have, by the advice of the Trustees, endeavored to carry out the expressed wishes of the founder of this noble charity; have devoted my time and energies to the work of reclaiming the inebriate, and saving those who are just entering the road to ruin. In pursuance of this object I have made personal appeals to one thousand four hundred and sixty-seven persons, brought before the Court for intemperance and kindred vices; have administered the pledge to sixty persons addicted to the use of intoxicating liquors; have obtained and distributed more than twenty thousand pages of religious and temperance literature at the Jail, Almshouse and House of Correction; have conducted religious services every Sabbath morning in the Woman's department of the House of Correction, and have averaged two temperance meetings each week, endeavoring to encourage those engaged in the good work.

This is all that is apparent to human observation, but hope anticipates a more cheering scene, when that which has been done in secret shall be rewarded openly. We can hope for little permanent reform while the monster Intemperance rears his head along

our streets and laughs at our feeble attempts to regulate by License his war upon the happiness and comfort of our homes. "Wine is a mocker, strong drink is raging and he that is deceived thereby is not wise." Your Missionary, after long years of observation and thorough investigation, has been forced to the sincere belief that nothing but stern, uncompromising Prohibition can stay or turn back the flood of Intemperance that is sweeping over our land.

All of which is respectfully submitted,

ALONZO STEWART.

ANNUAL REPORT

OF THE

OVERSEERS OF THE POOR OF CAMBRIDGE.

CAMBRIDGE, DEC. 22, 1885.

To the Honorable the City Council of the City of Cambridge:—

GENTLEMEN,—The Board of Overseers of the Poor of the City of Cambridge herewith respectfully presents its annual report for the year ending Nov. 30, 1885.

The mode of relieving the City poor adopted in May, 1877, has been continued with the same uniform success.

The term of service of Jonas C. Wellington having expired May 1st, the City Council elected Michael Corcoran to serve for the term of five years.

Dr. Lewis L. Bryant, the assistant City Physician, was re-appointed in May last, and has continued his duties to the present time.

Of professional visits, 1,969 have been made since Nov. 30, 1884, to 487 patients outside the Almshouse. Of this number 153 had a legal settlement in Cambridge and 107 were born in this City. Of the total number 196 were males and 291 were females. Twenty-one women have been attended in childbirth outside the institution; 111 persons have been vaccinated since Nov. 30,1884; 11 persons have been attended at the police stations, 7 males and 4 females; 14 patients have been sent to the hospital for treatment; 40 persons have been examined relative to insanity, and 35 have been sent to the State lunatic hospitals; 26 persons aided by the City have died outside the Almshouse.

The practice of taking histories of the applicants for aid has been continued, and there are histories of 4,258 persons, or families, now on file at the office of the Board; 474 of these histories

have been taken within the past year, embracing 1,422 persons; 582 males, 840 females, 451 adults and 971 minors; 158 of this number are settled in Cambridge, 97 in other cities and towns, and 219 are State paupers; 64 histories have been revised under the changes in the pauper laws, within the year.

The number of paupers supported by the City at the various institutions within the past year was as follows:—

City Almshouse	282
State Reform School.	4
State Industrial School	5
Middlesex House of Correction	17
State Lunatic Hospitals	86
	394

The expenditure for outside aid has been $21,456.31. Of this amount $10,790.18 has been expended for the 86 insane at the State hospitals, embracing 56 at the Danvers hospital, 13 at Worcester Lunatic Hospital, 9 at Worcester Chronic Asylum, 5 at Taunton Lunatic Hospital, 2 at Tewksbury Insane Asylum, and 1 at Northampton Lunatic Hospital, (36 new cases the present year) who have a legal settlement in Cambridge, against $9,648.42 last year. This is an increase of $1,141.76 in one year in the cost to the City for its insane poor.

This sum would have been much increased but for the 27 cases of the mildly insane class cared for at the Almshouse.

The receipts have been $4,673.32, leaving a total cost of $16,782.99 for the support of the poor outside the Almshouse.

Almshouse.

Total number of inmates during the year	330
Total number present Nov. 30, 1885	160
Average monthly number	145

In July charges against the management of the Almshouse led to a public investigation. After careful consideration of the matter, the Board decided that the interests of the City and of the institution demanded a change in the government. In consequence, in September, Martin L. Eldridge and his wife, Harmony P. Eldridge, were placed in charge, and Oliver G. Fosdick was appointed watchman.

The Board would call the attention of the City government to

the constant yearly increase in the number of the insane, and their cost to the City. This, together with the fact that the State institutions are over-crowded, may soon make it necessary for the City government to consider whether it cannot better, and with less expense, take care of its own insane.

We would also call the attention of the City government to the suggestion of the Warden of the desirability of separating the different classes of inmates of the Almshouse. In this suggestion the Board concurs; but, as it requires a change and addition in the accommodations at the Almshouse to carry it out, we refer the matter to the City government.

The old "cottage" having deteriorated beyond profitable repair, a new building was contracted for by the City Council at a total expense of $1,750, and is now being erected. The building is intended for the reception of such cases as can be better cared for there than within the almshouse proper. The first payment of six hundred dollars has already been made upon the contract.

The report of the Warden shows that of the 202 inmates admitted during the year, 174 entered on overseers' permits, and 28 were sentenced by the court. Sixteen boys and one girl have been sentenced to the almshouse truant-school during the year. Of the 330 inmates present within the year, 223 were adults and 107 were minors. There have been 171 discharged, 111 being males and 60 females.

Included in the total number of inmates present Nov. 30, 1885, are 27 of the chronic mildly insane class, 11 of whom are males and 16 females. These are cases transferred, after careful investigation, to the almshouse. The overseers have cared for nearly as many of this class as their accommodations have permitted.

The city school, under the care of the school committee, has numbered 71 pupils during the year, and 43 were present at its close. Miss Julia S. Gushee has taught the school during the year.

Of medical visits to the almshouse, 203 have been made, and 71 persons have been attended therein. There have been 24 deaths at the institution during the year, mostly of chronic diseases. Many of these were admitted to the institution in the

last stages of disease. Twelve patients were present Nov. 30, 1885, in the almshouse hospital wards. Three women in the institution have been attended in childbirth.

A schedule of personal property of the almshouse, as presented in detail by the warden, shows a valuation of $12,383.04.

The expenditures for the almshouse during the year have been $18,844.23, and the receipts have been $2,284.28, leaving a total cost of $16,559.95.

Farm and Ledge.

Two men have been regularly employed on the quarry, and the male inmates of the almshouse have also labored there, when not otherwise employed. The practice of requiring all able-bodied male persons applying for aid to work on the ledge, in return for aid received from the city, has been continued with gratifying success. Forty-eight men of this class have worked 872 days within the past year.

The expenditures for the farm and ledge have been during the past year $2,496.02, and the receipts have been $4,746.31, leaving an excess of receipts over expenditures of $1,250.29.

House Offal.

This department, under the voluntary charge of the Board of Overseers, and not to be included in the expenditures for the care of the poor, has been managed in the same manner as during the past eight years.

The expenditures during the year have been $13,541.68, and the receipts have been $7,354.36. The net cost for the collection of the city offal has been $6,187.32, an increase of $1,970.47 over last year.

Recapitulation.

Total expenditures, outside aid	$21,456.31
Total receipts	4,673.32
Net cost	$16,782.99
Total expenditures, Almshouse, Farm, and Ledge	$21,340.25
Total receipts	7,030.59
Net cost	$14,309.66
Total expenditures, exclusive of house offal	$42,796.56
Total receipts	11,703.91
Net cost of care of the poor	$31,092.65

Respectfully submitted,

WM. E. RUSSELL,
SUMNER ALBEE,
GEO. D. CHAMBERLAIN,
MICHAEL CORCORAN,
K. S. CHAFFEE,
CHAS. E. VAUGHAN,
} *Overseers of the Poor.*

ANNUAL REPORT

OF THE

TRUSTEES OF THE CAMBRIDGE PUBLIC LIBRARY.

To the City Council of Cambridge:—

The Trustees have the honor to present their annual report, being the Twenty-Eighth since the opening of the library, and the seventh under the title of the Cambridge Public Library.

The past year has, we have reason to think, been one of progress and improvement, the circulation, 83,016 vols. exceeding that of the year 1884, by 3,176 volumes, while that of 1884 was 2,543 vols. in excess of 1883, showing that the advantages and benefits of the library are being more and more appreciated. The additions to the library the past year have been in a large degree books of a permanent character; books of history, art and literature, have found a place on its shelves, and much care has been taken in the selection of the lighter reading matter which has been added.

The Trustees would not unduly urge the claims of the library upon the city authorities, but the ordinance in relation to the library reads: "They, the trustees, in their annual report shall present to the City Council such information or suggestions as they may deem desirable." First and foremost, the need of a new catalogue is so apparent, that we feel justified in renewing with greater emphasis the call of the last two years for an appropriation for that purpose. The sum allowed us to make a beginning on that work, five hundred dollars, was so inadequate that only a few matters of detail could be undertaken, and only one hundred and fifty dollars of that special appropriation was expended, the balance being returned to the City Treasury. The expense which

will be quite large, estimated at not less than thirty-five hundred dollars, could we think be so arranged as to be spread over two years, and we would ask for an appropriation of two thousand dollars for the ensuing year.

The Librarian in her report has brought the matter so plainly to our attention that we need not enlarge on this point. The Reading Room, as a valuable adjunct to the library, has a strong hold on the public favor; the papers and magazines placed there show by their appearance that they are not simply there for show, but have honest use and, considering the limited accommodation of that department and the insufficiency of light obtainable from outside, it would appear that larger, and better lighted accommodations would be appreciated by the public.

The Trustees would ask of the City Council the sum of sixty-five hundred dollars for the usual current expenses of the library for 1886, and, in addition, the sum of two thousand previously referred to for a new catalogue.

The report of the Librarian is herewith submitted as part of our report, and matters pertaining to the working of the library are there fully set forth.

Expenditures.

Salaries, — librarian, assistants, janitor, etc.	$2,380.14
Books, papers, periodicals	1,854.33
Rent of room, including heating	1,000.00
Binding and repairs on books	496.70
Gas, $286.27; Water-rates and ice, $20.60	306.87
Printing, stationery, etc.	237.84
Furniture, repairs, etc.	183.21
Petty expenses, — expressage, etc.	34.41
	$6,493.50
Appropriation	6,500.00
Unexpended	$6.50
Expended on preparation of new catalogue	$150.00
Appropriation	500.00
Unexpended	$350.00

We cannot close our report, without again emphasizing the need of larger and better accomodations. The Librarian has in her report again called attention to the urgent needs of the library;

to its crowded condition, and consequent inconveniences to the citizens who are its patrons, and we bespeak for the matter your early and careful consideration.

Respectfully submitted,

HERSEY B. GOODWIN,
EDWARD R. COGSWELL,
JABEZ A. SAWYER,
HENRY H. GILMORE.
CORNELIUS G. H. BENNINK.

Trustees of Cambridge Public Library.

LIBRARIAN'S ANNUAL REPORT.

To the Trustees of the Cambridge Public Library :—

GENTLEMEN,—In presenting this, her twelfth annual report, the Librarian can but repeat with emphasis the appeals of last year. The usefulness of the Library is, as was then foreseen, much hindered by the fact that its catalogue is now contained in twelve different lists. These are practically a mystery and puzzle to the stranger seeking information as to what the library contains.

Were the Librarian always at liberty, to act as a guide through this labyrinth, to answer the numerous questions which the reader cannot decide for himself, the necessity of a concise list of these eighteen thousand volumes would be much less. As it is, her work and that of her assistants is constantly interrupted by questions like the following:—

"Where can I find the story of Damon and Pythias?" *Ans.* In the Dictionary of Greek and Roman Mythology and Biography, in the Reference Library.

"Have you any book which will tell me about the customs of Hallowe'en?" See catalogue of 1875, Book of Days.

"Can you help me to anything on the subject of Arbitration, Geneva Awards, etc.?" See Treaty of Washington, by Caleb Cushing, 477-11, and the Encyclopædia.

"I want a colored picture of some pear blossoms." See Flowers, in fourth Supplement.

"Have you anything new on Architecture, Queen Anne houses, etc.?" See the fourth and fifth supplements.

"Does the library contain anything on Mechanical Drawing?" See two works by Warren, recommended by a teacher of drawing.

"Anything on Botany?" Yes, a fine list kindly suggested by Prof. Asa Gray, of Harvard College. See Botany, in the first supplement to the 1875 catalogue.

These are a fair specimen of the number and variety of questions daily asked, by the High School pupil who has a composition in hand; the young orator preparing for a debate; or the mechanic seeking to supplement his education by a wise use of the free library.

It is precisely in this direction that the Library does its best work and becomes a means of real help to the student. Should it not be able to show at once what it contains on a given subject? If this cannot be done by the catalogue, some one should be at liberty to aid those who are seeking information, and not mere entertainment.

The card catalogue of the entire library has been completed by the Librarian during the last six months. As soon as the needed appropriation has been made, the new catalogue should be begun. If completed during the first half of 1886, we may avoid issuing a *sixth* supplement to our present catalogue, an expense of time and money which should be saved.

Our need of more room is fast becoming imperative. The present book-cases are nearly full and the library room will hold no more. Its present crowded condition, and our inconvenient place of delivery, prevent anything like a systematic arrangement of cases, a source of confusion to the attendants. The City should at once consider how it can provide new rooms for the library by the close of another year.

The statistics of work during 1884-5 are as follows:—

Books Added.

	By Purchase.	Gift.	Exchange.	Total.
First quarter	187	19	1	207
Second quarter	258	6	1	265
Third quarter	174	15	..	189
Fourth quarter	434	12	..	446
	1,053	52	2	1,107

The present accession number is 18,131.

This is a large estimate of the library, as it contains some books which for various reasons have been withdrawn and also the 495 volumes of the Franklin Square Library. These are of such transient value, that it may be deemed best to omit them from the new catalogue.

List of Donors.

Hon. Leopold Morse	23	Dr. E. R. Cogswell	1
State of Massachusetts	9	Moses G. Howe	1
Lovel & Co.	1	John S. Browning	1
City of Cambridge	1	S. H. Dudley	2
Mr. Benjamin F. Nourse	10	United States	3
		Total	52

Books issued.

First quarter,	24,061	Average per day	318
Second quarter,	22,827	" " "	299
Third quarter,	16,569	" " "	189
Fourth quarter,	19,559	" " "	254
Total for year,	83,016	" " "	272

Largest issue for any day, (March 14), 613.
Smallest " " " (Sept. 3) 103.

The issue for 1884 was	79,840
Number of postals sent for books over-due	2,283

Six books have been lost, and we have not been able to trace them to the right persons.

Number of books covered during the year	10,709
Number of books bound or repaired	3,823
Number of books destroyed because of contagious diseases in the families reading them	33
Number of new names of Readers or Card-Holders, including those transferred from old lists	1,733
Present number of Card-Holders	7,008

Of the Histories of Cambridge, two have been exchanged for other town histories and one has been presented to His Honor, the Mayor.

During the year 207 worn-out books have been withdrawn from the library and those replaced which could be obtained; 69 were withdrawn and not replaced, being thought of too little permanent value to warrant the purchase of a second copy.

Fay Legacy.

With the income of 1884 six valuable works of Art and Travel were purchased, and a portion of that of 1885 has been spent for two volumes on Japanese Art.

Receipts for Fines and Catalogues.

	Fines.	Catalogues.	Total.
First quarter.....	$29.45	$3.25	$32.70
Second quarter.....	31.52	6.00	37.52
Third quarter.....	39.24	——	39.24
Fourth quarter.....	34.01	2.75	36.76
	$134.22	$12.00	$146.22

The City Treasurer's receipts for these amounts have been submitted with the quarterly reports.

The Reading Room still holds its place in popular favor, and is a source of profit and enjoyment to many. Students and ladies who wish to read at the library need a more quiet room and one which affords better light than any at our command. The catalogue work is done in a room so dark, that artificial light is frequently needed, a disadvantage which must be experienced to be correctly estimated.

Whenever *the* public-spirited citizen provides the library with its much needed new building, let him remember it must be abundantly lighted to be really useful. This consideration should influence the choice of a site and the plan of construction.

Now that the High School and Hospital are provided for, will not some one consider the claims of the Public Library?

All of which is most respectfully submitted.

ALMIRA L. HAYWARD,

Librarian.

REPORT

OF THE

JOINT STANDING COMMITTEE ON PUBLIC PROPERTY.

THE duties imposed upon this committee become more and more arduous with each succeeding year. While other committees, responsible for the expenditure of the public money, may rely upon some competent head of a department, to whom the execution of any work, in its details, may be entrusted, this committee is obliged to give its direct personal attention to all such details.

During the past year, the time of the committee has been occupied to an unusual extent, in attending to repairs upon the numerous school-houses and other city buildings.

Your committee has also been charged with the further responsibility of carrying forward the work of building two additional school-houses, both of which are as yet unfinished.

In accordance with the custom in years past, your committee made a special examination at the beginning of the year of all the city property entrusted to its care. There being thirty-two school-houses, beside the various other city buildings, this duty necessarily occupied many days.

In several of the buildings, the sanitary arrangements were found so defective as to require immediate attention, their condition being regarded as dangerous to the public health.

The changes and repairs required in this direction were attended with considerable expense, which, in view of the circumstances, could not be avoided.

It was believed, at the close of the last year, that the repairs which had been made upon all the city buildings, had left the

same in such good condition that the next year would witness a large reduction of the expenditures under this head.

Each succeeding year will, nevertheless, inevitably bring its own peculiar needs, and, however exhaustive may have been the attention given to the various city property, there is likely to be just as urgent call for expenditure in the coming year as during the past, for, as stated in the last year's report, many of our buildings were constructed of wood, generations ago, and are fast going to decay.

As previously stated herein, this committee has had charge of the construction of two school-houses during the past year. One of these was a structure built as an addition to the Webster School-house on Upton street, and the other was the building on Lee street, formerly known as the Lee-street Church, which was purchased by the city for High-school purposes.

This building is now undergoing alterations.

Both of these school-houses will doubtless be finished and ready for occupancy early in the coming year.

The following details show the expenditures approved by this committee, from Jan. 1 to Dec. 1, 1885, and by the committee of the previous year in December, 1884, the whole covering the financial year ending Nov. 30, 1884.

Appropriations.

Fire Department, repairs on buildings and furnishing:—		
Engine-House No. 1	$57.57	
" " 2	22.53	
" " 3	2.00	
" " 4	98.22	
" " 5	999.71	
Hook and Ladder House No. 1	82.02	
" " " 2	18.38	
Chemical House No. 1	22.78	
Battery room	99.14	
		$1,402.35
Incidental expenses:—		
City Hall, care and repairs	$3,413.24	
City Buildings, care and repairs	6,978.93	
Care of public clocks	164.85	
Ringing bells	168.00	
Fitting up polling-places	455.52	
Amounts carried forward	$11,180.54	$1,402.35

Amounts brought forward	$11,180.54	$1,402.35
Incidental expenses:—		
Old burial ground, Ward One	28.41	
Rent of ward-rooms	275.00	
Rifle-range, repairs of	51.20	
Water, etc., for drinking fountains	630.00	
Draining city lands	117.50	
Miscellaneous	216.02	
		12,498.67
Police, repairs and furnishing stations:—		
Station 1	$44.55	
" 2	398.43	
" 3	266.12	
" 4	11.46	
" 5	4.70	
" 6	15.27	
		740.53
School-houses, (care and repairs):—		
Fuel, (approved by Committee on Fuel)	$7,246.74	
Gas	330.63	
Repairs and supplies	13,034.43	
Water	866.30	
Janitors	11,182.92	
		32,661.02
School-houses (new, and furniture):—		
Extra work on Wellington school-house in December, 1884	$167.71	
Lee-street school-house	6,500.00	
Webster school-house	11,421.30	
		18,089.01
Evening Schools, janitors, etc.		154.00
Evening Drawing schools, janitors, etc.		27.15
Total		$65,572.73
Less items for fuel:—		
City Hall	$271.95	
City Building, Ward 1	783.81	
" " " 4	475.65	
School-house	7,246.74	
		8,778.15
Total amount of bills approved by this committee		$56,794.58

The items for fuel are given in the foregoing, in order to show the actual cost of maintenance of the several buildings, but are deducted from the aggregate to show the amount of bills approved by this committee. All fuel is contracted for by the Committee on Fuel.

The amount of bills approved by the Committee on Public Property in 1884, was	$60,552.72
Less Fuel bills, City Buildings, included in above	1,649.20
	$58,903.52
Bills approved in 1885	56,794.58
Decrease	$2,208.94

City Building.

The expenditures in and upon the City Hall building in the year 1885, were as follows: —

For Fuel	$271.95	
" Gas	343.23	
" Janitor	1,200.00	
" Extra cleaning	598.00	
" Water	70.42	
" Sundry repairs and furnishing	929.64	
		$3,413.24
In 1884 the cost was		3,246.93
Increase		$166.31

As this building is subject to a more continuous use by the public than any other city building, it requires constant repair, and the expenses in this direction are not likely to be reduced. The matter of a proper safe in which to keep the city records was considered by this committee early in the year, and the city Clerk and City Engineer were requested to furnish such suggestions thereon as might seem advisable to them. So far no action has been taken in relation to the building of the safe, and in the meantime the records of the city are deposited in a place, from which it might be difficult to take them in case of fire, and where in such case there would be no protection whatever from the devouring element, if they could not be removed. This matter has been referred to the incoming City Council for its action, and it undoubtedly will see the necessity of providing the proper fire-proof vault for the safe keeping of valuable city documents and records.

In the hall in the second story, a new floor is needed, and action has already been taken in reference to the matter.

The cost of maintenance of the City Building, Brattle square, in 1885, was as follows: —

For Fuel	$783.81	
" Gas	669.29	
" Janitor	1,140.00	
" Water	194.10	
" Sundry repairs and furnishing	1,500.04	
Total		$4,287.24
In 1884 the cost was		3,955.73
Increase		$331.51

In this building are Engine No. 1, Hook and Ladder No. 1, and Police Station No. 1, these occupying the first floor. The second floor over the Engine and Hook and Ladder house, is used by the Fire Department for sleeping rooms and tenements for members of the department. Over the portion occupied by the Police Department, rooms are fitted up and used by the Third District Court of Eastern Middlesex. The upper rooms and those under the roof are used for the Fire Alarm Telegraph, and the Armory of Company B., 5th Reg't, M. V. M.

Very extensive repairs have been made upon this building during the past year, mostly in fitting up the rooms over the Engine House, in order to render them more convenient for the members of the Fire Department. The sleeping-rooms were formerly in the rear of the building, but are now on the front side, and better facilities are given to the firemen for getting out in case of a midnight alarm of fire.

The cost of Central Square Building in 1885 was as follows:—

For Fuel	$475.65	
" Gas	388.49	
" Janitor	1,140.00	
" Water	157.50	
" Repairs and furnishing	492.31	
Total		$2,653.9
Cost in 1884		2,365.63
Increase		$288.32

The principal cause of the increase was owing to the expenditure for snow guards, placed on the roof by order of the City Council, the amount of which was $251.00.

The first floor of this building is occupied, on the east side by the police department, for the office of the Chief of Police, and

for Station Two. The westerly side is used by the Fire department for Chemical Engine No. 1. Over the Engine-room is a tenement occupied by the firemen attached to this engine. Over the police-rooms are the offices of the Overseers of the Poor, the Superintendent of Schools, Superintendent of Lamps, City Sealer and Milk Inspector. The ward-room is also upon the same floor. The upper rooms are variously used.

The Armory of Company B., 1st Reg't, M. V. M., is in the upper portion of the building. An order authorizing a new floor and other repairs in the Armory has been adopted. These repairs will cost about $1,000.

Fire Department.

The expenditure for repairs upon Engine-houses, and for furnishing the same, was less than in the previous year, as shown below: —

Expended in 1884	$2,897.54
Expended in 1885	1,402.35
Decrease in 1885	$1,495.19

Of the above amount the sum of $999.71 was expended in the erection of a tower and in repairs upon Engine House No. 5 in Inman Square.

The improvement in this building was made in response to the urgent call from residents in the neighborhood, for a Fire Alarm striker upon the Engine House, a new tower having been necessary for the reception of the striker, which has lately been put into the tower.

Although the matter was deferred for this year, it will hardly be possible to delay making extensive repairs upon other engine-houses in the coming year, particularly upon Hook and Ladder House No. 2, at the corner of Cambridge and Portland streets, which in its present condition is a discredit to the city. As the entire lot upon which this building is situated, is included in the list of salable city lands, and the frontage on Cambridge street is regarded as desirable for building purposes, it has been suggested that the building be removed to the southerly end of the lot, and set so as to front on Portland street. It is a matter to be determined, whether or not the value of the house is sufficient to justify the repairs which such removal would render necessary.

School Houses.

Provision was made in the annual financial estimates at the beginning of the year for additional school accommodations in Ward Four, and the sum of $18,000.00 was appropriated for the enlargement of the Webster school-house. This committee was authorized to contract for the erection of a brick building for such purpose. Proposals for the same were accordingly asked for, and July 2d the contract was awarded to Angus McInness of Cambridge, for the sum of $14,840. He was the lowest of nine bidders, the next bidder having named an amount $908.00 higher.

The specifications for the work did not include heating apparatus, plumbing, electric bells or piping. By the terms of the contract the work was to be completed on or before November 1st, 1885. Payments thereon were to be made in stated sums as certain stages of completion were reached, the fact of such payments being due to be certified to the committee by the architect, Mr. James Fogerty. Although every reasonable effort was made to advance the work toward the completion of the building, within the time specified in the contract, frequent delays occurred, which this committee was powerless to prevent, until about the 26th of October, when the contractor abandoned the building, and subsequently went into insolvency.

Of the amount which was agreed to be paid under the terms of the contract, the sum of $10,000.00 had been paid to the contractor. There were four payments amounting to the sum above named, and each payment was duly certified to the committee by the architect, as being due, in accordance with the contract. It is believed that the building can be finished according to the specifications, for the balance remaining of the sum named in the contract, viz.: $4,840. It is possible that the cost of completion, owing to the lateness of the season, may exceed this sum by a few hundred dollars, but had it been undertaken on the first day of November, it might have been done at figures below that sum.

The amount paid on account of this work up to the close of the year is as follows: —

Paid Contractor for Building	$10,000.00
" for Plumbing	1,185.55
" Architect, on account	200.00
" Repair of Drain	33.13
" Copying Specifications	2.62
Total expended to Dec. 1, 1885	$11,421.30

Inasmuch as, under authority of a recent order of the City Council, the committee has already taken steps toward the completion of this school-house, having received new proposals therefor, the work will very soon go forward.

It was not believed when the appropriation was made for this building that the sum fixed upon would be sufficient for the purpose, the sum of $20,000.00 having been asked for by this committee. It is now certain that this sum will be required to complete and furnish the building ready for use.

The opportunity to secure a building in a suitable locality for the classical department of the High School, having been presented, by the sale of the Lee-street church property, an appropriation of $14,000.00 was made by the City Council for that purpose.

The land and buildings were purchased for the sum of $6,500.00, and this committee was authorized to receive proposals and contract for the alteration of the church edifice, into a school-house.

The contract for this work was awarded to Mr. John Quin of Cambridge for the sum of $6,000.00. He commenced the work and it is now far advanced toward completion. The contract was exclusive of heating apparatus and plumbing, and the electric tubing. The several contracts as awarded, are as follows: —

Contract for remodelling the building	$6,000.00
" " Plumbing and Superintendence	1,225.70
" " Heating Apparatus	487.00
" " Speaking Tubes and Electric Bells	93.00
	$7,805.70
Add cost of Land and Building	6,500.00
Total	$14,305.70

In anticipation of the above excess of cost over the amount originally appropriated, a further sum of $1,000.00 was author-

ized upon the above account, making a total sum of $15,000.00.

Of the above aggregate, the amount thus far actually paid is that expended for the land and building, viz., $6,500.00.

This School-house will probably be finished before February 1st, 1886.

In making provision for the sanitary needs of the new school-houses, built under the direction of this committee, every endeavor was made to secure the best possible system of plumbing. That known as the "Harvard College System," which had been adopted by the college authorities in several of their more recently constructed buildings, was recommended to your committee, and was examined as far as practicable by several of the members. They were satisfied that it is the best system in use in this vicinity, and further believed that the persons best acquainted with this system, those who had previously introduced it in this neighborhood, were the most proper to be employed to do the work. With this view the system was adopted for the Webster school-house enlargement, and subsequently introduced at the Lee-street school-house.

For School-houses, (care and repairs) the appropriation in 1885, was originally	$30,000.00
Additional appropriation	2,800.00
Total	$32,800.00
Amount expended	32,661.02
Balance unexpended	$138.98
The amount expended in 1884 was	$34,926.48
The amount expended in 1885 was	32,661.02
Decrease in 1885	$2,265.46

The principal items of expenditure under the above head were those incurred in remedying defects in drainage, and in improving the sanitary arrangements of school-houses. One item which may be mentioned was inherited from the Committee of 1884, viz: the bill for plumbing at the Shepard school-house, amounting to $518.86, incurred in the month of December. The work was certainly a necessity, as the out-buildings were in a condition unfit for use. This committee however had no knowledge of the indebtedness until the bill was presented for approval in the latter part of January.

Payment of the bill was delayed, and the matter was carefully

investigated. There was no evidence that the work was not done, and in the belief that the contractor was justly entitled to the amount charged, the bill was approved after a delay of nearly six months.

The changes made in the drainage system at the Thorndike school-house also make a heavy item of expenditure included in the figures hereinbefore given.

Complaints having been made of foul odors apparently proceeding from the cellar of the building, the city engineer was requested to make a thorough examination of the drainage and recommend such changes as might be deemed necessary. The result was an entire change in the drainage system of the building, and although the expense involved was upwards of $2,000.00, it is believed by the committee that the same has been wisely done and that thereby a serious danger to the health of the occupants of the school-house has been removed.

In the month of December, 1884, by authority of the City Council, snow-guards were placed upon the roofs of the following school-houses, and at the cost hereinafter named: —

Tarbell	Ward 4	$161.69	
Willard	" 4	187.18	
Boardman	" 4	177.75	
			$526.62
Reed	Ward 5	$105.00	
Wyman	" 5	105.00	
			210.00
Total			$736.62

A claim against the city, made about this time, for damages resulting from a snow-slide from the roof of a city building, was the moving cause which induced the above expenditure.

The usual comparison of expenditures upon school-houses is here presented: —

Expenditures.

	1884.	1885.
Blackboards	$323.33	$257.59
Fuel	7,290.46	7,246.74
Furniture and repairs	630.57	511.20
Gas	110.73	330.63
Gravel, grading, and paving	144.50	139.08
Hardware and tools	473.39	316.98
Heating apparatus and repairs	2,915.75	1,520.73
Janitors	9,660.44	11,221.92
Repairs of buildings and fences, and lumber	10,306.26	8,644.72
Supplies, miscellaneous	1,090.40	732.87
Sundry expenses	134.50	872.26
Water	859.15	866.30
	$34,239.48	$32,661.02

The cost of repairs and supplies in all the school-houses, exclusive of the items of fuel, gas and water, was $12,995.43.

This amount was expended under the direction of the individual members of the several wards, as nearly as can be ascertained, as follows: —

Ward 1	$1,995.47
" 2	1,996.35
" 3	4,674.60
" 4	1,819.59
" 5	1,807.19
Unclassified	702.23
	$12,995.43

The figures below show the cost of maintenance of each school-house, exclusive of the items for janitors, fuel, gas and water, and referring to repairs and supplies only.

School-Houses.

High	$335.06
Allston Grammar	112.46
Corlett "	61.79
Harvard "	302.40
Putnam "	288.45
Shepard "	877.39
Thorndike "	3,151.23
Washington "	659.17
Amount carried forward	$5,787.95

Amount brought forward		$5,787.95
Webster Grammar		719.68
Agassiz Primary		390.53
Boardman "		330.12
Bridge "		42.80
City (Almshouse) Primary, piano, one-half cost		150.00
Cushing Primary		167.38
Dana "		152.51
Dunster "		294.21
Felton "		236.45
Gannett "		168.71
Gore "		615.60
Holmes "		21.92
Lassell "		277.68
Lowell "		309.14
Mason "		79.68
Otis "		327.93
Quincy "		165.41
Reed "		263.23
Riverside "		316.45
Sargent "		49.33
Stearns "		313.27
Tarbell "		376.74
Willard "		313.37
Wyman "		266.23
Wellington "		283.36
Superintendent's office		84.47
Ward-room schools	$13.71 1.00 9.81	24.52
Unclassified		466.76
		$12,995.43

As will be observed, only a comparatively small sum was expended on each of the school-houses named below:—

Corlett, on Holworthy street, annexed district.
Bridge, on Pioneer street.
Holmes, on Quincy street.
Mason, on Front street.
Sargent, on Broadway, corner Winsor street.

All the above, with the exception of the Holmes, are old wooden buildings, and are liable to need extensive repairs very soon.

The sanitary arrangements at the Mason school-house are of such a character as to demand immediate attention. This subject was brought to the notice of the City Council before the summer vacation, and the authority asked for, to make the

requisite improvements, was refused on the ground that the condition of the building would not justify the outlay of money required for the purpose.

Public Lands.

One lot of land at the corner of Brookline and Pilgrim street has been sold during the year.

No other changes have taken place.

Surrendered Estates.

These now consist wholly of vacant lands, except the lot on Cambridge street, between Harding and McCabe streets, which has a small shop upon it.

The income has been passed to the revenue account of Incidental Expenses. All the lots in the Franklin street district have been sold, with the exception of ten small lots on Hayes street, containing in all 28,278 feet.

About one-third of the area of the South-Dock lands has been sold to parties whose estates, fronting on Harvard street, extended to the line of the old dock. The land on Cambridge street, previously mentioned, and containing 24,934 square feet, has been specially designated by the City Council as a site for a schoolhouse, which it is proposed to erect thereon during the coming year.

Mill-Pond Lands.

In addition to the collections of ashes deposited upon the upper basin of the Mill Pond territory, the Street Department has put upon this land good filling material, in quantity about 5,000 cubic yards, and at an expense of about $1,500.00, the same having been authorized by the City Council.

The nuisance complained of, occasioned by foul odors arising from the Old Channel, has thus been abated.

One-half of the old Mill-Pond Creek, between Putnam avenue and Blackstone street, has been sold.

The lower basin of the Mill-Pond, extending from Blackstone street to the river is now in charge of the Street Department, to be used ultimately for wharf purposes.

No arrangement has as yet been effected with owners of adjacent lands with reference to proposed streets, as shown on the city plan of these lands.

Tax-Title Lands.

These lands remain the same as in the previous year. Sign-boards have been put up in the various lots, advertising the same for sale.

Janitors.

There are twenty janitors of school-houses and three janitors of city buildings employed under the direction of the Committee on Public Property. The duties of the janitors of the larger school-houses, as well as those of the city buildings, require undivided attention.

The committee also employs the janitors of the Ward Rooms of Wards Three and Five, during the season of the evening schools, when the rooms are used. The amount paid for the services of these public servants will be found under the proper heads of account.

Reports of the manner in which the janitors of school-houses perform their duties, are submitted monthly to the superintendent of schools by the respective principals of schools.

These reports are placed in the hands of this committee, and its special attention is called to any remissness on the part of a janitor.

Rules and regulations for the guidance of school-house janitors, have been prepared by the superintendent of schools, each janitor having a copy of the same. Complaints being infrequent, it is believed that these rules are very generally complied with.

THE FOLLOWING IS A SCHEDULE OF PROPERTY

owned by the city at the close of the year 1884, all of which is under the charge of this committee, except such as is specially noted:—

Almshouse Building.

Foot of Tannery Street, Ward 5, with $14\frac{242}{1000}$ acres of land in Cambridge, $15\frac{376}{1000}$ acres of land in Somerville, and $\frac{1}{10}$ acre in Arlington. Total area, $29\frac{3}{4}$ acres. Also stone ledge located on Almshouse land. (In charge of Board of Overseers of the Poor.) N. B. — A part of this land, situated in Somerville, is for sale, and is mentioned elsewhere in this schedule, under *City Lands (Salable)*.

Cemeteries.

Cambridge Cemetery. Foot of Coolidge Avenue, containing $40\frac{8129}{10000}$ acres of land. Also, additional territory adjoining, on southeasterly side, purchased in 1885, containing $18\frac{765}{1000}$ acres, upland, and $6\frac{29}{100}$ acres marsh. Total $25\frac{55}{1000}$ acres. This land was formerly known as the Winchester Estate, and has been annexed to the City of Cambridge by Legislative enactment. The total area of the cemetery lands, inclusive of this additional territory, is $65\frac{8679}{10000}$ acres. (In charge of Board of Commissioners of Cambridge Cemetery. Included in their report.)

Burial-Ground. Garden Street, junction of North Avenue, containing 85,858 square feet of land. (Recently placed in charge of the Cemetery Commissioners.)

City Buildings.

Ward 1 *Building*, Brattle Square, and land, 16,153 feet.

Central Square Building, junction Western Avenue and Green street, and 13,028 feet of land.

City Hall, Main Street, corner Pleasant Street, and 10,181 feet of land.

City Stables, Norfolk, Hampshire, and Tremont Streets, and 72,661 feet of land. (In charge of Committee on Roads and Bridges.)

Police Station, Norfolk Street, on City Stable lot.

City Lands (Salable).

Lot on Franklin and Auburn Streets, containing $33{,}835\frac{2}{10}$ feet.

Lot on Auburn, Pilgrim, and Sidney Streets, containing $76{,}101\frac{7}{10}$ feet, with house and shed thereon used by Water Works. [A portion of this land, containing about 25,000 feet, is leased to the Cambridge Water Works, and another portion, of about 15,000 feet, is used by the Sewer Department.]

Lot on Sidney Street, east side, near Auburn Street, containing $18{,}207\frac{3}{10}$ feet.

Lot on Cambridge, corner Portland Street, containing 111,697 feet.

Land in rear of Broadway, West Somerville, part of Cambridge Almshouse land, being lots 51, 54, 56, 57, 60, 67, 68, 69, 70 to 76 inclusive, 83 to 92 inclusive, 99 to 108 inclusive, 117

to 124 inclusive, on the city plan of Almshouse Building Lots, containing in all about 215,000 feet; (also included in the area of Almshouse lands).

City Flats.

Flats, opposite City Wharf, Main Street, south side, opposite junction with Harvard Street; in all, 162,379 feet.

Commons and Public Squares.

Cambridge Common. Garden Street, North Avenue, and Waterhouse Street. Area, 370,785 feet.

Public Square. Between Waterhouse Street and North Avenue. Area, 13,180$\frac{7}{10}$ feet.

Arsenal Square. Garden and Chauncy Streets and Concord Avenue. Area, 3,189 feet.

Public Square. Between Waterhouse Street and Garden Street. Contents, 363 feet.

Public Square. Between Holmes Place and Cambridge Street. Contents, 20,956 feet.

Public Square. North Avenue, corner of Kirkland Street, on south corner. Contents, 23,074 feet.

Public Square. North Avenue, corner of Kirkland Street, on north corner. Contents, 33,357 feet.

Public Enclosure. Junction of Arrow and Main Streets, containing 872 feet.

Broadway Park. Broadway, corner of Norfolk Street. Contents, 107,181 feet.

Fort Washington. Waverly Street. Contents, 42,123 feet.

Public Square. Junction of Pleasant and River Streets. Contents, 1,569 feet.

Hastings Square. Brookline, Chestnut, and Henry Streets. Area, 29,999 feet.

Dana Square. Lake, Magazine, Lawrence, and Niagara Streets. Area, 33,531 feet.

Winthrop Square. Boylston, Winthrop, and Mount Auburn Streets. Area, 10,236 feet.

Tudor Park. Between Fresh Pond drive and Watertown Branch Railroad, containing 53,032$\frac{2}{10}$ feet.

Engine-Houses.

House No. 1, Eliot Square, corner Mount Auburn Street, included with Ward 1 Building.

House No. 2, Main Street, near Winsor, and land, 3,150 feet.

House No. 3, Gore and Fourth Streets, and land, 4,220 feet.

House No. 4, North Avenue, near corner Russell Street, and land, 6,315 feet.

House No. 5, Hampshire Street, corner Inman, and land, 6,000 feet.

House, Hook-and-Ladder No. 2, Cambridge Street, corner of Portland; land included in city lands.

Gravel Pits.

Gravel Pit, in rear of Concord Avenue, southerly side, near Adams Street, containing 397,417$\frac{7}{10}$ feet. (In charge of Committee on Roads and Bridges.)

Gravel Pit, on Gay Estate, rear of Adams Street, near Concord Avenue, containing 23,076$\frac{5}{10}$ feet. The gravel only is owned by the city. (In charge of Committee on Roads and Bridges.)

Mill-Pond Property.

Old Mill-site and Basins. River Street, near Brighton Bridge, and upper and lower basins on River Street, Putnam and Western Avenues, comprising an area of 305,690 feet, or about 7 acres.

School-Houses and School-House Lands.

Allston, Boardman Street, 15,193 feet of land.

Agassiz, Oxford Street, corner Sacramento Street, 19,689 feet of land.

Boardman, Winsor Street, corner School Street, 10,018 feet of land.

Bridge, Pioneer Street, Lower Port, 4,646 feet of land.

Corlett, Holworthy Street, and 10,000 feet of land.

Cushing, Cushing Street, nearly opposite Locust Street, 14,788 feet of land.

Dunster, Concord Avenue, near Sparks Street, and 10,000 feet of land.

Dana, Centre Street, and 14,317 feet of land.

Felton, Amory Street, corner Summer Street, and 15,090 feet of land.

Gore, Gore Street, between Third and Fourth Streets, and 9,900 feet of land.

Gannett, Columbia Street, between Lincoln and Cambridge streets, and 8,802$\frac{7}{10}$ feet of land.

Harvard, Broadway, corner Inman Street, and 20,494 feet of land.

High School, Fayette Street, Antrim Street, and Broadway, and 37,828 feet of land.

Holmes, Hilliard Street, and 11,182 feet of land.

Lassell, Charles Street, near Sixth, and 10,000 feet of land.

Lowell, Lowell Street, near Mount Auburn Street, and 12,033 feet of land.

Mason, Front Street, corner Jennings Street, and 10,000 feet of land.

Otis, Otis Street, between fifth and Sixth Streets, and 8,270 feet of land.

Putnam, Otis Street, corner Fourth Street, and 10,000 feet of land.

Quincy, Mason Street, corner James Street, and 8,469$\frac{3}{10}$ feet of land.

Reed, Reed Street, Ward 5, and 12,000 feet of land.

Riverside, Putnam Avenue, Ward 1, and 11,198 feet of land.

Sargent, Broadway, corner Winsor Street, and 9,995 feet of land.

Shepard, North Avenue, near Russell Street, and 14,755 feet of land.

Stearns, Harvard Street, near Prospect Street, and 10,050 feet of land.

Tarbell, Grigg, Howard, and Magee Streets, and 19,500 feet of land.

Thorndike, Thorndike Street, corner Sixth Street, and 10,027 feet of land.

Washington, Brattle Street, corner Farwell Place, and 14,-951$\frac{1}{2}$ feet of land.

Webster, Upton Street, and 25,839 feet of land.

Wellington, Columbia, corner of Lincoln Street, and 18,870 feet of land.

Willard, Lake, Lawrence, and Niagara Streets, and 20,079 feet of land.

Wyman, Spruce Street, corner Groveland Street, and 14,346 $\frac{8}{10}$ feet of land.

ALSO,

School-house on Lee Street, (unfinished) and 10,100 feet of land.

Primary School-house lot on Cambridge Street, between Harding and McCabe Streets, containing 24,934 feet of land. (Old building on the land.)

Surrendered Estates.

These estates were surrendered to the city under the provisions of the statutes relating to low-land filling.

This list gives by whom surrendered and location of property.

CAMBRIDGE STREET DISTRICT.

Nourse, Susan M. Porter and Jefferson Streets. Lot of land, 7,756 feet, Porter Street; lot of land, 8,732 feet, Porter and Jefferson Streets.

COWPERTHWAITE STREET DISTRICT.

Crane, Ann, Heirs of. Grant street and De Wolf Street. Lot of land containing 12,353 feet.

WASHINGTON STREET DISTRICT, SOUTH DOCK, AND SOUTH CANAL.

Bent Heirs. Dock and Sixth Streets. West lot containing 5,959 feet; lot east of Boston and Albany Railroad, between Harvard street and Broadway, containing 21,722 feet.

Hunt, Fanny E. Harvard Street, north side, easterly of the estate of Bridget Manning; lot containing 6,966 feet.

FRANKLIN STREET DISTRICT.

Murdock Lands. Lots 29, 30, 31, 32, 33, 34, 35, 44, 47, 48, on Hayes Street, as per City Plan, containing 28,278 $\frac{6}{10}$ feet.

TAX-TITLE ESTATES (SALABLE).

The following-described estates were conveyed to the city by persons who had purchased them at auction sales by the Collector of Taxes, and the city has taken legal possession of the same.

Lot on Broadway, west corner of Sixth Street, containing 17,517 feet.

Lot on Second Street, east of Conlan's Court, containing 26,400 feet.

Lot on Hunting Street, west side, adjoining land late of Melley, containing 2,709 feet.

Lot on Spruce Street, near railroad, adjoining land of McSweeney; area, undetermined.

Land on Walden Street, southeast of land of Darling, southwest of land formerly of Saunders; area, 16,365 square feet.

WHARVES AND LANDINGS.

Public Landing, foot of Bath Street: area, unknown. *Gerry's Landing*, so called, south of Mount Auburn Street; area, unknown. Each has a frontage of 30 feet on the river.

City Wharf, Main Street, opposite Harvard Street, 13,680 feet.

WATER WORKS PROPERTY.

Old Engine House Lot, foot of Lake View Avenue, about 33,568 feet of land.

New Engine-House, opposite foot of Lexington Avenue, and 90,414 feet of land.

Fresh Pond, lands bordering on; area, unknown.

Little Pond, lands bordering on; area, unknown.

Reservoir, Reservoir Street, corner High Street, and 86,920 feet of land. All the Water Works property is in charge of the Cambridge Water Board.

Recapitulation of Areas.

Kind of Property.	Square feet.	Acres.
Almshouse lands, about	1,294.516	29.718
Cambridge Cemetery	1,778,511.24	40.829
Cambridge Cemetery (enlargement)	1,091,395.8	25.55
Burial-ground, Ward 1	85,858	
Occupied by City Buildings	112,023	
Salable City Lands	239,541.2	
City Flats	162,379	3.73
Commons and Public Squares	743,447.9	17.069
Occupied by Engine-houses	19,685	
Gravel-pit on Concord Avenue	397,417.7	9.125
" rear of Adams Street	23,076.5	
Mill-Pond Lands, about	305,690	7.018
Occupied by School-houses	477,345.5	

Surrendered estates, lands: —

	Square feet.		Acres.
Cambridge Street District . . .	16,488		
Cowperthwaite Street District .	12,353		
Washington Street District . . .	34,657		
Franklin Street District	28,278.6		
Total in all the districts		91,776	
Tax-Title Estates, four estates		62,991	
Occupied by Water Works at Fresh Pond .		210,902	
City Wharf Land		13,680	
Total about		7,110,256.64	163.225

Schedule

Of salable city lands, surrendered estates, and tax-title lands, included elsewhere in this report, with their appraisal: —

Lot on Franklin and Auburn Streets, 33,835$\frac{2}{10}$ feet	$8,458.75
Lot on Auburn, Pilgrim, and Sidney Streets, 76,101$\frac{7}{10}$ feet .	15,220 34
Lot on Sidney Street, east side, near Auburn Street, 18,207$\frac{3}{10}$ feet	2,731.09
Lot on Cambridge, corner Portland Street, 111,697 feet . .	39,093.95
Flats opposite City Wharf, Lower Port, 162,379 feet . . .	8,118.90
Mill-Pond Property	15,000.00
Total city lands as appraised	$88,623.03
Total surrendered estates	18,419.90
Total tax-title lands, about	10,000.00
	$117,042.93

Salable Almshouse lands, about 215,000 feet, unappraised.

The following appraisal has been made of some of the city property, hereinbefore classified. The estimates are based upon valuations made within a few years past.

The figures set against the items of City Lands, and Surrendered Estates, represent about the taxable value of the property, and are not, as a whole, an over-estimate.

The Mill-Pond Property which was quoted above at $15,000.00, the same as in 1884, has had a considerable sum expended upon it in filling, and although two lots were sold during the year, the remaining land is actually not less valuable. When the contemplated streets are laid out through this territory, the salable portion of the land will be in demand for building pur-

poses, and will easily offset any losses that may have accrued on other lands sold by the city.

The valuation of the various City Buildings and School-Houses is based upon their cost, and is given for statistical purposes.

Appraisal.

City Buildings, Land and Furniture, about	$280,000.00
School-houses, Land and Furniture, about	680,000.00
Salable City Land	88,623.03
Surrendered Estates	18,419.90
Almshouse and Land	45,000.00
Wharf at Lower Port	7,000.00
Gravel-pit in Cambridge (old)	4,000.00
Tax-title Lands, about	10,000.00
Personal property used in connection with Public Squares, including trees on hand, about	500.00
	$1,133.542.93

Respectfully submitted,

MALCOLM E. RIDEOUT,
GEO. A. ALLISON,
JAMES E. DOYLE,
ELBRIDGE G. STEVENS,
WARREN IVERS,

Committee on Public Property.

REPORT

OF THE

COMMITTEE ON SOLDIERS' AID.

THE Committee on Soldiers' Aid submits to the City Council its report for the year ending Nov. 30, 1885:—

The amount paid as regular State aid was	$9,312.50
The amount paid to indigent soldiers and sailors was . . .	2,777.00
The amount paid to the agent employed in the examination of settlements, etc., was	307.50
Total	$12,397.00
The amount received from the Commonwealth was	$11,323.00
The amount received from other towns and cities	206.00
	$11,529.00
Orders in Treasurer's hands, uncalled for, have been cancelled, amounting to	$1,099.00

There are now upon the State-aid list 167 persons, an upon the list of indigent soldiers and sailors 32.

All which is respectfully submitted,

JOSEPH COGAN,
M. E. RIDEOUT,
GEO. A. ALLISON,
GEORGE CLOSE,
EDWARD R. COGSWELL,

Committee on Soldiers' Aid.

REPORT

OF THE

CEMETERY COMMISSIONERS.

To the Honorable the City Council of the City of Cambridge:

The thirty-second annual report, covering the financial year ending Nov. 30, 1885, is herewith respectfully presented.

The financial exhibit is as follows: —

The estimated revenue was	$12,500.00	
Amount of appropriation in addition	500.00	
Total amount appropriated		$13,000.00
Total amount of expenses		11,686.53
Balance unexpended		$1,313.47

For a detailed account of expenses, reference is made to the Auditor's report.

The receipts for the year have been as follows: —

For Care of lots, burial fees, etc.	$5,596.23
Burial lots and graves	6,386.25
Wood, grass, and hay	86.50
Rent of house	129.12
Interest on fund for perpetual care of lots from Nov. 30, 1882, to Nov. 30, 1885	1,047.60
Total amount of receipts	$13,245.70

The whole number of interments during the year has been.	588
" " interments in the cemetery	14,194
" " lots prepared during the year	120
Estimated value of the same	$21,880.00
Number of lots now ready for sale	132
Estimated value of the same	$24,925.80
Amount received for perpetual care of lots in 1885	$1,450.00
Amount of fund for perpetual care of lots	$7,700.00

Cambridge Cemetery Extension.

Amount of bonds issued	$65,000.00	
Received as premium on these bonds	4,660.50	
Total appropriation		$69,660.50
Expenditures on Extension aforesaid:—		
Labor	$3,949.75	
Lumber and carpenter work	169.03	
White lead, plumbing, etc.	33.78	
Akron pipe for drains	427.72	
Iron gratings, cement, etc.	26.00	
Amount paid the Brown heirs	47,750.00	
" " town of Watertown	15,000.00	
" " for interest at 3½ per cent to Aug. 1st (when bonds were issued)	935.54	
Amount paid for teaming	420.87	
Total expenditures		68,712.69
Balance unexpended		$947.81

In relation to the customary work in the cemetery, it may be said that the lots and paths have been kept in good condition. Willow and Fir avenues have been laid out and graded. The section of single graves on Lotus Path has been suitably graded and sodded and forty-six of these graves have been sold. A new Public Lot in the "Winchester Addition" has been established, containing about one acre of land. In this lot about four hundred bodies have been interred.

A retaining wall on the bank of the marsh has been built to the extent of about ten rods in length and eight feet high. It is intended to add three feet to the height. The stone so used is, as formerly, the boundary wall between the new and the older portions of the cemetery.

A drain running from Coolidge Avenue to the said retaining wall has been laid with 10 and 12 inch Akron pipe, and three filtering galleries have been constructed, covered with iron grates at the surface.

The Public Statutes provide (chap. 82, sec. 9), that each town and city shall provide one or more suitable places for the interment of persons dying within its limits. The original enclosure known as Cambridge Cemetery was consecrated to burial purposes Nov. 1st, 1854. There is nothing in the statutes to forbid

the sale of lots or graves to non-residents, but for obvious reasons it has been deemed unwise to allow such conveyances or transfers. The city of Cambridge has no desire to provide, as a matter of speculation or profit, places in its cemetery for the burial of any except its own population. And it ought not to be expected or required to furnish lots for the convenience of residents of other towns or cities. It is the intention of the Commissioners to refuse to sell lots or graves except to those who may be entitled thereto in conformity with the foregoing rule.

There may be practical difficulties in the rigid enforcement of such a regulation, and attempts have sometimes been made to evade it, but it seems to us that our duty is clear in the matter. It has been the invariable practice since the establishment of the Cemetery, to refuse a deed of a burial lot therein to others than actual residents, and the wisdom of that policy becomes more apparent with the lapse of time.

It is cause for congratulation that the urgent necessity for an enlargement of the Cambridge Cemetery, which had been for some years a matter of concern and embarrassment to the Commissioners, has at last been met by the purchase of the Winchester estate, so-called, adjoining the original boundary of the cemetery. This addition comprises $18\frac{4}{10}$ acres of land well adapted in most respects to the purposes of a public burial ground. Already a portion has been laid out and appropriated to the uses of a public lot. If our successors will wisely restrain the too common tendency to mar the natural features of the landscape, no part of our grounds will be more attractive in the future than the extension just secured. The estate thus acquired was wholly within the town of Watertown. The consent of that town was necessary, under the statute, to our use of the land for burial purposes. Upon conference with its selectmen, an agreement was entered into providing that the town of Watertown should assent to the annexation of the "Winchester estate" to the city of Cambridge, and that to compensate the town for the loss of taxable property the said city should pay to it the sum of fifteen thousand dollars. Accordingly the legislature was petitioned for the requisite authority, which was granted in chapter 62, Acts of 1885, entitled "An Act to annex a part of the town of Watertown to the city of Cambridge." In

brief, by said act, the boundaries were established, and the city was required within thirty days from the passage of the act to pay to the town of Watertown the sum of fifteen thousand dollars. The city was authorized also to issue bonds for a twenty years' loan to an amount not exceeding seventy thousand dollars, bearing interest not exceeding six per cent per annum, payable semi-annually, to be denominated "Cambridge Cemetery Loan," and the option was given of providing for the redemption of said bonds at maturity by means of a sinking fund, or by the payment of said debt in annual proportionate payments. The City Council deemed it wiser to provide for the debt by a loan.

All which is respectfully submitted,

WM. E. RUSSELL,
SAMUEL W. MC'DANIEL,
JOHN F. O'BRIEN,
GEO. S. SAUNDERS,
SILAS B. BUCK,
CURTIS DAVIS,
CHARLES E. RAYMOND,

Commissioners of the Cambridge Cemetery.

REPORT

OF THE

CITY ENGINEER.

OFFICE OF THE CITY ENGINEER, CITY HALL,
CAMBRIDGE, Dec. 23, 1885.

To the Honorable the City Council:—

GENTLEMEN: — The City Engineer herewith presents a report of the operations and expenses of the departments of Engineering and Sewers, for the year ending Nov. 30, 1885.

Streets.

The bulkhead previously recommended for Mount Auburn street has not yet been built. I can only renew the recommendation and urge the importance of this work.

The granite block paving on Main street has been extended as far as Pelham street. This is a great improvement and a wise expenditure of money. It should be continued from year to year, and if possible be extended as far as Portland street the coming year. Streets have been laid out and accepted, as shown in the following table: —

Street.					Plan.		
Name.	From	To	Length in feet.	Width in feet.	Date.	Made by	Accepted.
Frank Street.....	North Avenue.....	Somerville line.....	464.15	40	Aug. 24, 1885...	William A. Mason & Son.	Oct. 21, 1885.
Grigg Street.....	Near Hews Street.....	Hews Street.....	66.37	40	April, 1877.....	City Engineer.....	Nov. 13, 1885.
Mercer Circle.....	Brattle Street.....	Sparks Street.....	444.94	40	June 16, 1885...	E. F. Bowker.....	June 18, 1885.
Rockingham Street...	Henry Street.....	Marginal Avenue.....	380.59	40	Sept., 1884.....	William A. Mason & Son.	May 4, 1885.
Surrey Street.....	Putnam Avenue.....	Banks Street.....	279.59	40	Sept., 1885.....	William A. Mason & Son.	Oct. 21, 1885.
Trowbridge Street...	Cambridge Street.....	Kirkland Street.....	934.75	40	June, 1880.....	H. F. Walling.....	Dec. 31, 1884.
Webster Avenue.....	Plymouth Street.....	Winsor Street.....	766.83		Sept., 1876.....	C. D. Elliot.....	Nov. 13, 1885.
White Street.....	Somerville Avenue.....	Cottage Court.....	300.00	30	June 30, 1884...	William A. Mason & Son.	May 15, 1885.

Mill Pond.

The work of filling the Mill Pond has been carried on for most of the year, and the whole surface has been covered to an additional depth, so that it is now comparatively free from the foul odors of former years. Several lots have been sold and new buildings erected thereon. Arrangements have not yet been completed with owners of adjoining lands, for a general laying out of the grounds and streets by a comprehensive plan, but should be soon, to ensure a proper development of the whole territory.

Bridges.

No extensive repairs have been required the present year on the bridges, the only one of importance being the re-building of the Third Street Bridge over Broad Canal. This was satisfactorily done by a contract with Orlando W. Morrison & Co. for $1,988.00. All the other bridges maintained in whole or in part by the city are in good condition, and will probably require for the coming year only the ordinary repairs.

New Bridge to Boston.

Favorable action was taken by the city of Cambridge in relation to this structure. It was also favorably acted upon by the Board of Aldermen of Boston, but rejected by a large vote in the Council. It is very desirable that the bridge should be constructed at an early day, and it would no doubt be of great benefit to both cities.

Sewers.

There have been constructed the present year $2\frac{081}{1000}$ miles, making a total of $71\frac{430}{1000}$ miles of sewers in the city. The details of construction of the same are shown in the following table: —

Sewers Constructed between Dec. 6th, 1884, and Dec. 1st, 1885.

Location.			Construction.						Total Cost.
Street.	From	To	Built by	Material.	Size in inches	Mna-holes	In-lets	Length in feet.	
Allston	Brookline Street	Easterly	City Engin'r.	Akron Pipe	10	..	8	104.20	$82.42
Brookline	Allston Street	Southerly	" "	" "	12	1	16	256.50	293.00
Brookline	Chestnut Street	Northerly	" "	" "	10	..	8	143.30	179.30
Bolton	Dublin Street	Westerly and Northerly	" "	Portland pipe	12 and 10	2	41	556.90	500.89
Bond	Concord Avenue	Northerly	" "	" "	10	..	14	198.10	230.69
Brattle	Sparks Street	Westerly	" "	" "	12	2	24	336.00	442.73
Boylston	End of old sewer	Northerly	" "	Akron pipe	12 and 10	2	22	353.10	377.06
Cogswell Place	Mead Street	Northerly	" "	" "	10	1	31	425.20	269.67
Carver	End of old sewer	Easterly	" "	Portland pipe	10	..	4	56.80	36.37
Cottage	End of old sewer	Westerly	" "	Akron pipe	12 and 10	1	22	261.70	247.18
Cedar	End of old sewer	Southerly	" "	" "	10	1	12	146.60	152.43
Creseent	End of old sewer	Westerly	" "	" "	10	..	18	200.10	117.91
Chauncy	End of old sewer	End of old sewer	" "	" "	12	..	4	46.30	38.51
Concord Avenue (see Donnell)									
Donnell St. and Coneord Avenue.	Tuttle Street	Concord Av. & Easterly	" "	Port'd & Akron pipe	12	2	44	635.50	589.24
Davenport (See Orehard Street.)									
Erie	End of old sewer	Easterly	" "	Akron pipe	10	1	13	128.90	154.07
Foster	Sparks Street	Westerly	" "	" "	10	2	12	216.20	333.38
Fifth	Spring Street	Northerly	" "	" "	10	1	11	164.20	225.76
*First, Vine, and Seeond	Thorndike Street	Charles Street	" "	Brick	36	4	72	1,195.30	9,758.96
Follen	End of old sewer	Westerly	" "	Akron pipe	10	..	6	79.60	71.65
Grigg	Magee Street	Westerly	" "	Portland pipe	12 and 10	1	43	496.80	550.94
Gore (See Third and Gore.)									
Hastings Square	End of old sewer	Southerly	" "	Akron pipe	8	...	2	52.50	64.75
Harvard	Lee Street	Westerly	" "	" "	10	1	14	195:10	210.04
*Lowland Avenue	Vine Street	Northerly	" "	" "	10	1	18	214.25	468.20
Mead	Cogswell Plaee	Easterly	" "	" "	15	1	12	212.95	434.93
Mount Auburn	Sparks Street	Westerly	" "	Port'd & Akron pipe	12	1	30	440.25	742.00
Main	Brewery Street	Easterly	" "	Akron pipe	12	..	13	217.70	197.67
Main	Remington St.	Easterly and Southerly to Mount Auburn Street	" "	Brick & Akron pipe	15 and 10	3	18	429.40	875.04
Munroe	Third Street	Easterly	" "	Akron pipe	12	..	17	145.10	147.13
Magazine	Putnam Avenue	Southerly	" "	" "	10	1	15	217.10	228.21
Norton Plaee	Norton Street	Southerly	" "	" "	10	..	8	101.85	98.99

Sewers Constructed between Dec. 6th, 1884, and Dec. 1st, 1885, (Continued.)

Location.			Construction.						Total Cost.
Street.	From	To	Built by	Material.	Size in inches.	Man-holes	In-lets	Length in feet.	
Orchard and Davenport Streets..	End of old sewer in Orchard St..	Easterly and Southerly	City Engin'r.	Portland pipe	10	1	15	177.70	$160.25
Otter	DeWolf Street...	Northerly	" "	Akron pipe	8	..	2	50.40	50.80
Putnam Avenue	Pearl Street	Easterly	" "	" "	12 and 10	1	33	471.25	679.42
Rockingham	Henry Street	Southerly	" "	" "	10	1	25	334.20	347.76
Reidesel Avenue	Brattle Street....	Northerly	" "	Portland pipe	10	1	20	298.00	283.71
Stevens Court	Fourth Street....	Easterly	" "	Akron pipe	10	1	17	216.00	245.77
Sibley Court	Sparks Street....	Westerly	" "	" "	10	..	13	177.50	177.35
Second	Spring Street....	Northerly	" "	" "	10	..	14	173.30	206.45
Second (See First, Vine & Sec'd.)									
Third and Gore	End of old sewer	Westerly and Southerly	" "	Portland pipe	12 and 10	1	13	191.40	267.90
Vine, (See First, Vine & Second.)									
Walnut Avenue	Lambert Avenue	Southerly	" "	Akron pipe	10	..	8	177.70	161.67
William	End of old sewer	Easterly	" "	" "	12	..	4	56.00	46.97
Cleveland	Ellery Street.....	Easterly	Priv. parties.	Port'd & Akron pipe	10	..	18	254.70	
Trowbridge Court	Trowbridge St...	Westerly	" "	Akron pipe	8	..	8	181.20	
						34	756	10,986.85	$20,747.17

* On pile foundations.

First, Vine, and Second Street Sewer.

As recommended, the sewer in First, Vine, and Second streets has been extended to take the Charles street sewer outlet, which has been cut off, and now discharges through this extension into the Bridge street sewer. This has removed a very considerable nuisance at the old point of discharge. The extension was 36 inches in diameter, built of brick on a pile and platform foundation with haunches backed with brick. Large quantities of water were encountered, which rendered the pumping on this work quite a large item in its cost. It was estimated at $9,000.00. Actual cost $9,758.96.

Bridge Street Outlet.

The outlet of this sewer has again been cleaned and dredged at an expense of $2,403.30, five-ninths of the same being paid by the city of Somerville. 5,300 cubic yards of material were dredged out and taken into Boston Harbor. There is no doubt in my mind that if the drainage of the Squire and North slaughtering establishments could be taken care of in some proper manner on their own premises, the evil which exists at the outlet of the sewer at Craigie's Bridge would be greatly mitigated and the expense of cleaning materially reduced.

There is a large filter now in operation at Maxwell's tannery, at Winchester Highlands, which is doing good work on the refuse of that establishment, and it seems to me it could be applied with success to the above named establishments now draining into this sewer.

Remington Street Sewer.

This sewer formerly passed through private lands and under the house of Chas. B. Taylor, Esq., who had been much troubled by gas from the sewer escaping into the house and causing sickness in his family.

The sewer has been cut off and the portion under the house filled with clay. The recommendation was to carry the sewer through Arrow and Bow Streets to the Oxford Street sewer, at Charles River Street, but owing to the large expense and the opposition of residents and owners on these streets, it was turned in the other direction and carried to the Mount Auburn Street sewer, at the corner of Putnam Avenue.

Alewife Brook.

Very little has been required at Alewife Brook; nothing has been done except to clean it at an expense of about $75. The new gate-chamber built last year is in good condition.

Rebuilding and Repairs.

The sewer in Willard Street, near the outlet, which had settled in places 4 to 5 feet below grade, and was in consequence much broken, was rebuilt in a northerly direction about 412 feet. Size 24 x 28 inch, brick, with new double-acting tide-gates, all placed on a pile and platform foundation, and haunches backed with brick. Total cost $3,657.42.

The sewer in Howard Street from Grigg Street northerly has been rebuilt at a cost of $938.17; also the sewer in Hayes Street across the filled land at a cost of $379.56, both on pile or artificial foundations.

New tide-gates have been built in the Pleasant Street sewer, and a large amount of work performed in flushing, cleaning, and repairs of sewers, cleaning and filling catch-basins, new man-holes in old sewers, and other work contingent on the care and repair of the sewers.

It will probably be necessary to rebuild the old sewers in Charles Street, and in a portion of Sixth, Second, Spring, and Hastings Streets the coming season.

Belmont District.

Complaints are still made from this section. Nothing has been done for its relief, as no plan seems feasible until a suitable outlet for its final disposal is provided. This outlet we expect when the plans, now matured, by the Massachusetts Drainage Commission to be reported to the Legislative of 1886, (should they be adopted), are carried out; then suitable drainage for this district could be provided.

The appropriation for sewers, construction, was	$22,500.00
Additional	2,590.42
	$25,090.42
Expended on sewers, construction	23,954.41
Balance unexpended	$1,136.01
Appropriation for sewers, maintenance	$12,500.00
Additional appropriation	4,800.00
	$17,300.00
Expended for sewers, maintenance	16,990.99
Balance unexpended	$309.01

Water Works.

Work has been continued on the Stony Brook additional supply. Contracts have been made for work on the same with the following parties, viz.:

Messrs. Scully & Gill, for excavating rock, clearing storage basin of trees, bushes, etc., hauling stones from old walls, and burning brush. Contract completed.

Coffin Valve Co., for 30 and 36-inch gates, sluice-gates and air-valves. Partially completed.

Thomas F. and J. J. Maney for grading for pipe line. Completed.

Camden Iron Works (R. D. Wood & Co.) for about $7\frac{7}{10}$ miles of 30 and 36-inch iron pipe and special castings. Completed.

John Brassil, grading pipe line near Fresh Pond. Completed.

Henry H. Pike & Son, laying $2\frac{3}{5}$ miles 30-inch pipe. Completed.

Messrs. Kiernan & Grace, for building dam at Roberts' Basin, and cleaning and finishing basin. Abandoned.

Henry H. Pike & Son, for building dam at Roberts' Basin, and cleaning and finishing basin. In progress.

Other work done by the day, has been the laying by Superintendent Hiram Nevons, of the 30 and 36-inch pipe from Fresh Pond to Union Market Station, and from the Watertown and Waltham line to the dam at Roberts' Basin, total length about $5\frac{1}{10}$ miles. The whole of the pipe between Fresh Pond and a point about half way across the dam at Roberts' Basin (about $7\frac{6}{10}$ miles) is now laid.

At Roberts' paper mill, a new No. 9 Blake Pump and boiler have been set up to supply the mill with water during the work of constructing the dam and cleaning the basin, the water in the pond which formerly supplied the mill being drawn down for this purpose. A temporary house has been erected over said pump and boiler, and the necessary piping put in, to take the water from Charles River (some 600 feet distant), to, and into the mill to the tanks from which the supply is taken. A meter connection has also been made with the mill from the Waltham Water Works by which the boilers are supplied, when the water in the river is too dirty for this use.

Lands have been taken for the basin at Roberts' mill and around the same, and at the possible sites for dams at Beaver Pond, on Stony Brook, also at a suitable point on the Hobbs branch, where, by the erection of dams, basins of very considerable area and storage can be created at some future time when occasion demands. Also rights of way for the pipe line, near Fresh Pond, between Nichols Avenue and Arsenal Street, in Watertown; also in Waltham from Moody Street along the banks of Charles River to the Cemetery, and from the Cemetery through lands of the city of Waltham, Harrington estate, William Roberts, and Millar, to South Street. Plans have been made of all the above mentioned takings and placed on file at the Registry of deeds, together with descriptions of the lands.

In the early part of the summer a contract was entered into with Messrs. Kiernan and Grace, for building the dam at Roberts' mill and cleaning out and finishing the basin. After giving a satisfactory bond, they commenced the work and continued the same for about one month, after which they notified the Board that they had abandoned the same, but would go on if a large addition to their price for work was made. Their propositions were declined by the Board, who received new proposals from a number of other parties; and a contract was finally entered into with Messrs. Henry H. Pike & Son, who furnished a satisfactory bond, and at once commenced their work. They have pushed the same with commendable energy to the present time. A very considerable amount of work has been done, in removing muck from the bottom of the basin, in cleaning the base of the dam, and building the earthwork on the same, in driving sheet piling, in building the retaining walls on Summer Street and the south side of the overflow channel, in the gate chamber, and other portions of the basin.

The flow of water in Stony Brook has been quite heavy, at times reaching about 70,000,000 gallons in 24 hours, and materially interfering with the work. It has scarcely fallen below about 3,000,000 gallons per 24 hours at the lowest stage, during the year.

Mr. N. Henry Crafts is still retained as Consulting Engineer, and Mr. George Davis is Resident Engineer in charge at the dam and basin.

A considerable amount of work has been done under the direction of the Superintendent at Fresh Pond during the year, in

preparing the same for the reception of the water from Stony Brook, and other general improvements in cleaning and improving the borders and bottom where exposed, which, owing to the low stage of the water, presented large areas and afforded a very favorable opportunity for doing this work. The proposed dam at Black's Nook has not yet been built, as all efforts at negotiation or removal of the injunction now existing have failed. A hearing in Court on the same is now probably near at hand. It is very desirable that this section of the pond should be improved.

Land has now been taken by process, or purchase, in strips of five rods, more or less, as occasion seemed to require, almost entirely around the pond. Plans of these takings with the proper descriptions have been made and placed on record at the Registry of Deeds, and this object, so desirable, has at last been attained.

Cemetery.

The Winchester Estate has been purchased, and now forms a portion of the Cambridge Cemetery. A satisfactory arrangement has been made with the town of Watertown by the payment of a suitable sum of money to adjust the loss by taxation, and, by consent, the Legislature has set off the same and annexed the teritory to the City of Cambridge. The ground has been properly marked by stone bounds. A large plan has been made showing a general laying-out of the grounds, portions of which have been adopted by the Commissioners, and the lots laid out and prepared for use. A considerable amount of drain-pipe has been laid through the lower potions of the territory, which provides for the removal of the surface water and for lowering that in the ground to a depth of several feet; a substantial retaining wall has been built on the easterly slope, near the marsh, with the stone removed from the dividing line between the old cemetery and the new purchase, besides other improvements.

Building Ordinance.

For several years suggestions have been made in my annual reports to the effect that the Building Ordinance should be revised. This year a committee has been appointed for this purpose, and for several weeks has been busily engaged on this revision. Its work is now completed, and it has reported a new ordinance in print, for your consideration. It is much more com-

prehensive than the old one, and provides for a Superintendent of Public Buildings, to be ex-officio Inspector of Buildings, who is required to give his whole time to the matter. The two positions will afford ample employment for one person.

Office.

The Stony Brook additional supply now in process of construction, and the work of taking lands at Fresh Pond, have very largely increased the duties of the City Engineer, and the labors of this office. The number of assistants is about double that required at ordinary times. A portion of the expense is paid out of the appropriation for that work.

The usual work called for by the various departments has been performed as required. Acknowledgements are due to all the assistants connected with this department for the ready and cheerful performance of duties entrusted to them.

Appropriation for Engineering	$7,500.00
Expended, exclusive of Stony Brook	6,340.45
Balance	$1,159.55
Transferred	800.00
Final balance	$359.55

Respectfully submitted,

WM. S. BARBOUR,
City Engineer.

REPORT

OF THE

SUPERINTENDENT OF STREETS.

To the Honorable City Council:—

THE undersigned asks leave to submit for your consideration his second annual report.

The appropriation for Street Department (Repairs) for the financial year ending Nov. 30, 1885, was $90,924.02. This amount has been expended for grading and repairing streets and collecting ashes, necessary labor, material, and the utensils employed. (For the different items, see Auditor's report.) Fifty-four streets have been graded in whole or in part during the year. The streets are in fair condition, but not what they should be; and before they are, a large amount of money must be expended on them. I would recommend an increased appropriation the coming year. It would be money saved if the City owned a Steam Road-Roller, and I do heartily recommend the purchase of one.

New Stable.

The new stable, which was building at the date of my last report, has been completed and gives general satisfaction.

Paving.

The appropriation for paving for the financial year was . . . $13,894.49

This amount has been expended in the completion of the paving of Main Street from the Bridge to Pelham Street, and in numerous repairs of edgestone heretofore set and brick sidewalks previously laid. I would urge that the paving on Main Street be extended the coming year as far as Portland Street, and a larger appropriation be made for needed repairs and new work demanded by the citizens.

Street Department (Watering).

The appropriation for this department was $21,557.01

This amount was expended for labor in watering the streets, six new carts, and the necessary expenses in running the department.

Bridges.

The appropriation for bridges was	$5,000.00
Amount expended	4,991.61
Balance unexpended	$8.39

Third Street Bridge was rebuilt this season; (for expense thereof, and the general condition of the Bridges, see Engineer's report.) Sixth Street Bridge was replanked at bottom and top, and is now in fair condition. All the Bridges in charge of this department are now in good order and will require nothing more than the ordinary repairs for the coming year.

Shade-Trees and Public Grounds.

The appropriation for this department was	$4,044.10
Amount expended	4,013.93
Balance unexpended	$30.17

This department is in fair condition, but I again state that I think the appropriation should be made larger so as to allow for a more liberal trimming of the trees than they can have with the usual amount set apart for the care of this department, and also that the proper amount be allowed for the grading of Dana Square.

The following streets have been accepted during the year: —

Street.	From	To	Length in feet.	Accepted.	Width in feet.
Frank Street.....	North Avenue.....	Somerville line..	464.15	Oct. 21, 1885	40
Grigg Street.....	Near Hews Street..	Hews Street.....	66.37	Nov. 13, 1885	40
Mercer Circle.....	Brattle Street.....	Sparks Street....	444.94	June 18, 1885	40
Rockingham Street.	Henry Street.....	Marginal Av. ...	380.59	May 4, 1885	40
Surrey Street.....	Putnam Avenue...	Banks Street....	279.59	Oct. 21, 1885	40
Trowbridge Street..	Cambridge Street..	Kirkland Street.	934.75	Dec. 31, 1884	40
Webster Avenue....	Plymouth Street..	Winsor Street....	766.83	Nov. 13, 1885	47 to 50
White Street.....	Somerville Avenue	Cottage Court....	300.00	May 15. 1885	30

Schedule of Property belonging to Street Department.

Thirty horses	$6,000.00
Thirty-three watering-carts	9,900.00
Engine and stone-crusher	3,500.00
Five street-rollers	1,500.00
Twenty-three carts	2,430.00
Twenty-four sets of harness, etc.	622.00
Eight wagons	495.00
Twenty-seven sleds and snow-ploughs	1,870.00
Railroad track, at East Cambridge	400.00
Tools and stable furniture	913.00
Four hundred and seventy-five feet of North River flagging	204.05
Ten thousand bricks	120.20
Two hundred tons of gutter paving-stone	320.00
Two hundred tons of granite block-stone	320.00
Eight thousand block paving-stone	200.00
Six lawn-mowers	90.00
One lawn-roller	15.00
One lawn hand-cart	80.00
Two pungs	75.00
Garden hose	10.00
Total	$28,264.25

I conclude with returning my heartfelt thanks to the members of the Standing and Joint Committees for their kind assistance and direction; to his Honor, the Mayor, and the other members of the City Council, for their indulgence and words of approval; and to the heads of the different departments, for their ready assistance, suggestions, and advice when needed.

Respectfully submitted,

JOHN McSORLEY,

Superintendent of Streets.

REPORT

OF THE

COMMISSIONER ON WEST BOSTON, CANAL, AND PRISON POINT BRIDGES.

The Commissioner for West Boston, Canal, and Prison Point Bridges submits for himself and associate the fifteenth annual report of matters pertaining to the West Boston and Canal Bridges and the ninth annual report on Prison Point Bridge.

West Boston Bridge.

A new bulkhead 320 feet in length has been built on the north side of the bridge at the Boston end, and thirty new braces have been bolted on to replace those broken by the ice during last winter.

The bulkhead for the entire length from the draw to the Cambridge end is so much decayed, and the planking underneath the sidewalk is in such poor condition, that it will not be safe to let it remain any longer in its present state. It should be replaced by new material early next year.

The iron-work under the draw has been scraped and thoroughly painted.

The engine and machinery are in good condition.

The electric lighting of this bridge and the Canal Bridge has been continued throughout the past year and has given entire satisfaction.

Canal or Craigie's Bridge.

This bridge was closed to travel and horse-cars on Saturday, April 18, at 10 P. M., so as to remove all the old timber from the draw, which was very rotten and in a dangerous condition.

The old timber was replaced by laying down hard pine four inches thick, planed and jointed, to make an even surface. The seams were caulked and a coat of tar spread over all.

Advantage was taken at this time to widen the roadway of the draw 12 inches.

The work progressed very rapidly by having relays of men, and was continued from 10 P. M. Saturday until 4 A. M. Monday, when teams and horse-cars were again allowed to pass over the bridge.

There was no interruption to foot travel, and the Cambridge Horse Railroad Company, by having cars on each side of the draw and sending others over Third Street, accommodated the public very satisfactorily.

The iron-work under the draw of this bridge has also been scraped and painted.

The Commissioners have settled with the owners of property on this bridge and now have it in their possession.

Repairs will have to be made on the Cambridge end of this bridge next season.

It has been found upon examination that the piles that are there now and have been there for nearly seventy years, are very much decayed at their tops so that the bridge has settled somewhat. It can be remedied, by putting trusses underneath so as to support it, without disturbing the roadway.

The piers will need new planking and some new piles, and part of the sidewalk bulkhead will have to be rebuilt.

In other respects the bridge and machinery are in good order.

For the safety of the public this bridge, and the West Boston, are now patrolled by the police both day and night.

Prison Point Bridge.

Only slight repairs have been made on this bridge during the past year.

The draw has been replanked and the superintendent's house has been painted.

The bridge and machinery for hoisting the draw are in very good condition.

The usual statement is given of the number of draw openings and the number of vessels passed through, also of the teams and foot travel over the three bridges, as determined by a special count made on Nov. 30th.

WILLIAM. J. MARVIN,

Commissioner for Cambridge.

CAMBRIDGE, Dec., 1885.

Number of times the draw in West Boston Bridge has been opened, and the number of vessels which have passed through during the year:—

	No. of Draw Openings.	No. of Vessels Passed Through.
December, 1884	110	154
January, 1885	16	24
February, "	0	0
March, "	15	21
April, "	125	169
May, "	199	277
June, "	261	443
July, "	415	970
August, "	266	580
September, "	327	872
October, "	328	831
November, "	219	406
Total for the year	2,281	4,947

MAURICE F. CORKERY,
Superintendent.

Number of times the draw in Canal Bridge has been opened, and the number of vessels which have passed through during the year:—

	No. of Draw Openings.	No. of Vessels Passed Through.
December, 1884	188	190
January, 1885	68	68
February, "	10	10
March, "	55	57
April, "	223	230
May, "	370	403
June, "	409	437
July, "	360	399
August, "	301	318
September, "	360	385
October, "	330	335
November, "	258	267
Total for the year	2,932	3,099

A. W. SMITH,
Superintendent.

Number of times the draw in Prison Point Bridge has been opened and the number of vessels which have passed through during the year:—

	No. of Draw Openings.	No. of Vessels Passed Through.
December, 1884	19	23
January, 1885	8	8
February, "	0	0
March, "	8	12
April, "	17	18
May, "	21	22
June, "	39	40
July, "	38	41
August, "	34	38
September, "	34	38
October, "	33	34
November, "	15	17
Total for the year	266	292

N. E. STORY,
Superintendent.

Number of teams, horse-cars and foot passengers crossing the West Boston, Canal, and Prison Point Bridges in one day, between the hours of 7 A. M. and 6 P. M., Nov. 30, 1885:—

	Teams.	Horse-cars.	Foot Passengers	Total.
WEST BOSTON BRIDGE.				
Boston to Cambridge	839	696	863	2,398
Cambridge to Boston	962	720	922	2,604
CANAL BRIDGE.				
Boston to Cambridge	2,290	168	1,310	3,768
Cambridge to Boston	2,525	170	1,360	4,055
PRISON POINT BRIDGE.				
Charlestown to Cambridge	859	....	767	1,626
Cambridge to Charlestown	834	....	782	1,616
Total	8,309	1,754	6,004	16,067

When the above count was taken it was a very dark day. On pleasant days the travel is very much more.

Classification of Expenses.

Amount appropriated	$7,800.00	
Estimated Revenue	200.00	
	$8,000.00	
Deduct amount transferred to Incidental Expenses	900.00	
		$7,100.00

INCOME.

For Damages	$6.50	
Old lumber	11.75	
Paving-stone	8.75	
Rent of Toll-House	30.00	
Sheathing draws	124.27	
Use of bill-board	17.50	
Wharfage	91.00	
	$289.77	

EXPENDITURES.

For Salaries, as per pay-roll	$1,941.69	
Wm. J. Marvin, Commissioner	500.00	
Charles Parsons, Clerk	50.00	
Car-fares, 1884 and 1885	9.31	
Teaming dirt	34.75	
Concrete	23.20	
Electric lights, W. B. and C.	1,195.55	
Fuel	186.58	
Hardware	54.38	
Cleaning bridges	96.25	
Lumber	783.89	
Printing	1.06	
Paving	145.08	
Repairs, carpenter-work	564.90	
" chimney	2.18	
" iron-work	145.70	
" caulking	153.37	
" plumbing	10.60	
" painting	57.88	
Sand	4.00	
Stationery and postage	12.87	
Sundry small supplies	17.72	
Steam-whistle	1.50	
Tide-water displacement	4.69	
Trimming edgestones	.62	
Thawing water-pipes	12.89	
Water taxes	27.50	
Watering bridges, W. B. and C.	400.00	
Sarah E. Hamblet, for real estate at Canal Bridge	400.00	
		6,838.16
Balance, Dec. 1, 1885		$261.84

REPORT

OF THE

HARBOR-MASTER ON CHARLES RIVER, MILLER'S RIVER AND BROAD CANAL.

To the Honorable City Council of the City of Cambridge:—

The undersigned herewith presents his report for the year ending November 30, 1885.

May 5. Was notified by Wm. H. Wood & Co. that Sloop Henrietta of Boston, owner unknown, was and had been drifting about in Broad Canal for some time to the danger and injury of other vessels; went to Custom House in Boston and found the owner's name and where he resided; called on him and requested him to remove his vessel which he did at once.

May 7. Was requested by Wm. H. Wood & Co. to have Schooner J. C. Ames of Rockland, Maine, removed from wharf, the captain having refused to go; notified captain to remove his vessel when the tide would permit, which he did that same day.

June 2. Captain of Schooner Xima of Machias, Maine, wanted two vessels removed, so as to get out of Canal; directed it, and his vessel and two others hauled out the same day.

June 12. Captain of tug Mattie Sargent asked to have schooner Nevinger of Philadelphia moved out of the way of other vessels; had captain of schooner do it.

June 23. Had Schooner F. A. Dow removed from pier so as to let others pass, she being in the way.

Aug. 14. Had vessels removed to let Schooner Josie pass through the Third Street draw.

Aug. 17 and 18. Had vessels removed to let Schooners Helena Russell and Myrtle Purdy pass down Broad Canal.

Oct. 24. Removed Schooner Lizzie Newton to clear channel for other vessels to pass by.

Nov. 10. Went to East Cambridge at the request of owners of wharf property, to remove vessels; had Schooner H. D. Anderson haul out from Wellington's Wharf; Schooner Abbie Berthly haul out from Cummings, Henry & Co.'s wharf to let the Schooner Fannie R. in to Ricker's stone wharf to discharge cargo.

The number of vessels that passed through the draws of West Boston, Canal or Craigie's and Prison Point Bridges in the year 1885 was 8,338.

From Dec. 1st, 1884 to Nov. 30th, 1885, the number of vessels that passed through Third Street draw was 479.

Respectfully submitted,

WILLIAM J. MARVIN.

Dec. 1885.

REPORT

OF THE

CAMBRIDGE WATER BOARD.

To the Honorable City Council of the City of Cambridge:—

As required by the city ordinance, the Water Board herewith submits its twenty-first annual report, being for the year ending Nov. 30th, 1885.

Total Cost of the Works.

Cost of the Water Works, Nov. 30, 1884, as per last year's report	$1,782,864.71
Expended on construction account during the year ending Nov. 30, 1885	304,513.78
Making the total expenditure	$2,087,378.49

Water Bond Account.

Whole amount of Bonds issued	$2,038,900.00
Amount paid from Water Loan Sinking Fund .	291,400.00
Leaving unpaid Water Loan	$1,747,500.00
From this deduct the present value of the Water Loan Sinking Fund, as per Trustees' account .	874,373.38
Leaving the balance of Water Loan yet to be provided for by the Sinking Fund	$873,126.62

Statement showing in brief the transactions in connection with the Water Works for the year ending Nov. 30, 1885.

General Construction Account.

RECEIVED.

From excess of receipts for rates, fines, etc. . .	$12,434.32

EXPENDED.

Balance due City Treasury, Nov. 30, 1884 . .	$43.04
On general construction account	12,391.28
	$12,434.32

Stony Brook Construction Account.

RECEIVED.

From Bonds issued, par value	$288,000.00
From premium on Bonds sold	19,550.40
State of Massachusetts, for survey	15.73
	$307,566.13

EXPENDED.

On Stony Brook construction	$292,122.50
Balance of appropriation unexpended	15,443.63
	$307,566.13

Water-Rates, Fines, and Supply Account.

RECEIVED.

From water-rates	$186,805.14	
Less rates refunded	1,260.78	
		$185,544.36
Shutting off and letting on water, seals, and fines		447.50
From supply account		6,250.55
		$192,242.41

EXPENDED.

For general construction account	$12,434.32
For maintenance account	29,914.51
For supply account	4,491.97
For interest on Water Loan	92,725.00
Paid into Sinking Fund, three per cent on bonds outstanding, $1,747,500	52,425.00
Surplus of 1885 to Sinking Fund	251.61
	$192,242.41

Comparative Receipts.

Water-rates for ten months to Nov. 30, 1884 . .	$161,526.27
Water-rates for the year ending Nov. 30, 1885 . .	185,544.36
Showing excess of water-rates in 1885	$24,018.09

Memorandum.

The large excess of rates in 1885 over 1884, as shown above, is largely explained by the change in the year, now ending May 1st, instead of July 1st, as formerly, by which in 1884 we got water-rates for only ten months.

Water Supplied.

Amount of water pumped in 1885 . .	1,125,252,287 gallons.
Amount pumped in 1884	961,368,830 gallons.
Showing an increase in 1885 of . . .	163,883,457 gallons.

This is the largest amount of water ever pumped in one year, and shows a daily average increase during the year of 448,968 gallons. A further examination of where and how this water was used, shows the following results: —

Amount sold by meter, and used for watering the streets	278,959,925 gallons.
Amount used for domestic and other purposes	846,292,362 gallons.
Total	1,125,252,287 gallons.
Daily average pumping during the year .	3,082,884 gallons.

This was divided as follows: —

Average daily high service	213,191 gallons.
Average daily low service	2,869,693 gallons.
	3,082,884 gallons.

The high service is furnished through the stand-pipe, while the low service is supplied from the reservoir level.

The daily average for each inhabitant for the whole amount pumped was . . . . . $49\frac{72}{100}$ gallons.
The daily average for each for domestic and other purposes was . . . . . $37\frac{4}{10}$ gallons.

This shows an increase in the average amount per inhabitant used daily, over former years, while the very large increase in the amount of water pumped this year over any former year shows conclusively that we much need the additional supply which we are now working for, and hope before long to secure.

Rainfall and Height of Water in the Pond.

Months.	Rainfall.			Water in the Pond below High-water Mark.		
	1883.	1884.	1885.	1883.	1884.	1885.
	Inches.	Inches.	Inches.	Feet.	Feet.	Feet.
December, 1884	1.87	2.94	4.60	6.45	11.10	7.68
January, 1885	2.94	4.81	5.43	7.10	10.67	7.71
February, "	2.85	6.67	2.94	6.73	8.89	7.61
March, "	1.76	4.91	1.06	5.52	5.90	6.72
April, "	2.48	4.22	3.61	5.09	2.99	6.42
May, "	4.10	3.18	3.77	5.63	3.01	6.35
June, "	2.28	3.79	4.10	6.32	3.68	6.94
July, "	2.38	4.56	1.72	7.47	4.33	7.91
August, "	.84	4.76	5.21	8.74	4.83	9.07
September, "	1.18	.70	1.78	9.87	5.68	9.95
October, "	5.61	2.90	5.56	10.38	6.67	10.69
November, "	1.96	2.63	9.20	10.75	7.34	10.69
Total for the year	29.75	46.06	48.98	Av. 7.50	Av. 6.26	Av. 8.15

An examination of the above table, in connection with the amount of water pumped, as shown by the Engineer's report, will show what a close connection there is between the amount of rainfall and the capacity of the Pond to furnish water from unseen sources, or in other words from the unseen ground flow of water into the Pond, and we think this is another link in the

evidence to demonstrate that the sources of supply to the Pond from unseen resources, are not from some far-off inexhaustible fountain head, but are dependent on the rainfall of its own immediate water-shed.

In making these comparisons we will take the last six months of 1883, 1884, and 1885, that being a time when the influences of the spring rains and melting snows have passed away, and the Pond is in its annual condition of a falling surface every day, showing that our demand exceeds the supply. In our calculations we have assumed the capacity of the Pond to be 4,000,000 gallons per inch, and while this is not the exact amount, and in the nature of things the exact amount cannot be ascertained with the Pond constantly settling, and the area thereby diminished, yet, as the same amount is applied to each year alike, the results *comparatively* cannot be far wrong.

1883. Rainfall from June 1st to Dec. 1st		$14\frac{25}{100}$ inches.
The Pond lowered same time	$5\frac{12}{100}$ feet.	245,760,000 gallons.
The Pond supplied from rainfall and unseen sources same time		240,332,266 gallons.
Total amount pumped in six months		486,092,266 gallons.
1884. Rainfall from June 1st to Dec. 1st		$19\frac{34}{100}$ inches.
The Pond lowered same time	$4\frac{33}{100}$ feet.	207,840,000 gallons.
The Pond supplied from rainfall and unseen sources same time		304,855,170 gallons.
Total amount pumped in six months		512,695,170 gallons.
1885. Rainfall from June 1st to Dec. 1st		$27\frac{57}{100}$ inches.
The Pond lowered same time	$4\frac{34}{100}$ feet.	208,320,000 gallons.
The Pond supplied from rainfall and unseen sources same time		356,470,468 gallons.
Total amount pumped in six months		564,790,468 gallons.

Work Done in and around Fresh Pond.

In anticipation of the introduction of the new water supply from Stony Brook, we have done what we could to finish the work, so well begun last year, of cleaning out the mud in the bottom of the Pond, and deepening the shallow places, which were laid bare by the very low stage of water. Especial attention has been paid to Boat-House Nook so called, lying along the railroad and southerly from the old Fresh Pond Hotel property. It is at this part of the Pond where our new supply will enter. The Nook has been cleaned out, a bank formed around the borders which have been thoroughly riprapped with stone and gravel, so that what was before an unshapely, shallow place, has been transformed into a handsome and well-formed basin, attractive to the eye, and a very much improved place for the storage of water for the use of our citizens. A driveway around its borders from Fresh Pond Lane, makes it a pleasant resort for our people who may wish to visit the place, and see what is to become to Cambridge, what Chestnut Hill Reservoir is to the city of Boston. No doubt it will be many years before everything that is desirable will be done about the Pond. But we have made a good beginning, although confined to what seemed necessary to do now.

The only remaining place around the Pond to which serious objection exists is Black's Nook, which is still a serious menace to the purity of our water. Although the water in the Pond for a large part of this year has been so low as to flow over but a very small part of the Nook, as a result a very heavy and objectionable vegetable growth now covers the Nook, which the next rise in the Pond must soak out, and then it will contaminate our water supply. We have made every effort to remove the objections to our making a dam at this point this year, but so far without success. We have offered to Mrs. Black, if she would remove the injunction from Court and allow us to go on and build the dam without further objections, the following propositions: —

First. We would build in the dam a sluiceway with gates in it, and when in the winter she wished to fill her ice house, we would, during the time of ice cutting, remove the gates so that

she could cut a canal in the ice and float the cakes to her ice house, as she always did when the Pond was full.

Second. We would build a roadway over the Nook and the top of the dam, to her ice-house, so that she could, if she pleased, cut all her ice from the main Pond, and having raised it two feet over the dam it would run by gravity on slides, such as are used by the ice people, to her ice-house, or she could dispense with the slides and run the ice to her house on top of the ice in the Nook, which would always be frozen over, whenever there was ice fit to cut in the main Pond.

Neither of these propositions was acceptable, although they seemed to us fair. The prices named in the proposals of Mrs. Black to us seemed so high and unreasonable that, as a last resort, we made a proposal so fair, that we thought no one who was inclined to meet the city in this matter on an equitable basis, would or could reasonably decline it, to wit:—

Third. If she would remove the injunction and allow us to go on and build the dam as proposed without further objections, we would agree to leave the matter of damages to a disinterested referee, to be tried and settled on the merits of the case.

This proposal was also declined, and here the matter rests so far as negotiations are concerned. The suit will soon come up in the Supreme Court to be tried on its merits. In order to provide against the exigency of the injunction, now temporary, being made permanent, on the recommendation of this Board, your Honorable Body has instructed the Mayor to petition the Legislature at its coming session for the right to build the dam at this place by *special act.*

We deem it of great importance that we do this work while the Pond is low, as it can be done much better and cheaper than at any other time, and it is very desirable also that it be done before the water from Stony Brook is introduced into the Pond. It is our purpose to continue our efforts to accomplish this object until we succeed.

Additional Water Supply.

We stated in our last Annual Report that we had taken certain lands near the Pond and along the Watertown Branch Railroad for a pipe line. So many objections were made by the Fitchburg Railroad Company to our going there, and some doubt

existing about our legal right to do so, that route was abandoned and a new one taken through private lands from Holworthy street to the Pond. The pipes for our conduit from Stony Brook to Fresh Pond, which had been contracted for at our last report, and some of them delivered, have since then been all delivered, with the special castings to go with them. The work of laying them commenced in Fresh Pond in February last, and that work was prosecuted with vigor whenever the weather would permit, until now the entire line of thirty and thirty-six-inch pipes is laid up to and partly across the dam at Stony Brook, which is now being built. With the exception of about two miles in Watertown the work of laying the pipe has been done by the day, and almost entirely by Cambridge men.

A contract was made in the early summer for the building of the dam at Stony Brook, and it was expected that the dam would be so far along that we could take water next spring to fill up our Pond. We made careful inquiry as to the character of the men to whom the contract was awarded, and the result was satisfactory. A contract was drawn according to the specifications, which had been fully advertised. The contract was signed and guaranteed by first-class bondsmen, and yet, after all that, before the coutractors had done two thousand dollars' worth of work, on the merest pretext, they sent us written notice that they would do no more work under the contract unless the price was greatly increased and the time very much extended. Every reasonable effort was made to induce them to go on with the work, and the extended time they asked was granted, but all efforts failed. This made it necessary to advertise for new proposals, and the contract was then awarded to Messrs. Henry H. Pike & Son, who have since prosecuted the work with commendable diligence. By this experience we lost two or three months of the best part of the year, and are not, therefore, so far advanced as we expected to be with this work. The time when we may expect to get water from Stony Brook we cannot now fix more definitely than to say some time next season. A very large amount of water has been running down Stony Brook this season. Within a few weeks the gauge showed as high as seventy million gallons per day after some of the heavy rains in November, while during the summer months it ran down as low as three million gallons daily.

Stony Brook is a quick stream, quickly enlarging in case of heavy rain, and quickly subsiding in a dry time. There is plenty of water, but to avail ourselves of it we must be prepared to catch and hold it when it comes, for our use when we need it. With Fresh Pond for our storage basin, we are amply prepared for many years to come, without further expense after the dam and basin at Stony Brook are completed. The time will come when it will be necessary for storage basins to be built near the head waters of Stony Brook and Hobbs' Brook, which unite some two miles above our dam. We have had a careful survey made of the head waters of Stony Brook, including Beaver Pond. A dam at a point on the brook below Beaver Pond, raising the water fifteen feet, will create a storage basin which will hold in store some seven hundred million gallons of water. Another dam on Hobbs' Brook will make a storage basin of nearly if not quite an equal capacity. In each of these cases there seems to be but one natural or feasible place to construct a dam, and both places are very favorable for such a structure. In anticipation of the future wants of the city, we have secured both of these sites for dams by taking two tracts of land of from ten to twenty acres each, which cover the only ground suitable for that purpose.

In the future, when the wants of the city for water have reached the capacity of the brook to supply through Fresh Pond, it will then only be necessary to build one of these dams and purchase the land for a storage basin, and so, as the demand increases, increase the supply.

The Borders of Fresh Pond.

Last year, in reference to securing the borders of Fresh Pond, and placing the same in the hands of the City, where we thought they should be, we wrote as follows:

"In 1875 the Legislature gave the city the right to take a strip of land five rods wide around the borders of the Pond (except where used for ice-cutting), for the purpose of preserving the purity of the water. In some places five rods wide might answer this purpose, but in other places, owing to the lay of the land, five rods is not enough. While it was not decided where the city would procure an additional and permanent supply of water, the Board did not feel like asking the City Council for

the power to take this land, or purchase other needed land, to control the borders of the Pond and preserve the purity of the water. We are now unanimously of the opinion that the time has come when we should proceed under the Act referred to, and, by purchase, secure what land is needed for this purpose. We have therefore sent to you a communication setting forth briefly the facts in the case, and asking that the Water Board be authorized, by purchase or otherwise, to secure the necessary land around the Pond, to control the borders and preserve the purity of the water.

In connection with this it has been suggested that a road or drive-way might be made around the Pond, which, beside the additional value it would give to real estate in that neighborhood, would effectually shut off any building on its immediate borders, as the road could be so located as to make it, a large part of the way, the proper boundary of the land needed around the Pond. We are informed that the parties who own the land are nearly, if not quite, all willing to give the land, provided the city will lay out the road. We think this matter is worthy of your careful consideration and prompt action.

In July last your Honorable Body passed an order, authorizing the Water Board "to take under the Acts of the Legislature, or otherwise procure by purchase, such lands around Fresh Pond as were necessary, in their judgment to preserve the purity of the water." Under this authority we have acted. Where it would answer the purpose we have taken five rods or less: in other cases we have negotiated until we have secured substantially the entire border of the Pond, with the small exceptions in five places where the ice houses are located, and which by law are exempt from taking, and can only be acquired by negotiation. Some of these ice-houses are valuable, and not particularly objectionable on the borders of our Reservoir, as at present conducted, using as the owners and ourselves do, every precaution that in conducting their business all chances of pollution of the water are reduced to a minimum. Under these circumstances we would not recommend the purchasing of them as a whole at present, leaving them for consideration in the future when they may become more objectionable, and waiting for favorable times when they can be

purchased at less price, and the city with a much larger population than now can better afford to buy all the borders of the Pond, and hold it exclusively as a Reservoir, as Chestnut Hill Reservoir is held by Boston. What we have done now secures nearly all the borders of the Pond, and secures us against the erection of any more buildings, which we might have to buy at a later period at a greatly increased cost. We feel sure that in the near future our course in this matter will receive the unanimous approval of all our citizens.

General Remarks.

We wish to express our hearty approval of the course of the City Council in creating "a committee on Water Supply." This committee has aided the Water Board in various ways during the past year, and we trust it will be continued in the future. It is of great value as a means of communication between the City Council and the Board in matters which are constantly coming up. We wish also to express to the City Council our most hearty thanks for its coöperation, and the readiness with which it has looked into and examined the plans we have submitted to it in order that it might act understandingly in making the appropriations that we have asked for, in the prosecution of our work.

All the different branches of our work are in good condition, and the regular officers and employés under our charge have been faithful in the performance of their various duties. The Superintendent has had a large amount of extra work to look after, in the laying of nearly three-fourths of the pipe from the pond to Stony Brook, by the day, and the work about Fresh Pond. But with able assistants the work has been kept well in hand, and under many difficulties has been carried to a successful completion.

The office work under our Registrar has been promptly performed, and the accounts correctly kept; all have seemed to vie with each other to see which would do his part the best. For detailed statements of what has been done we refer you to the reports of the Superintendent and Registrar made to this Board, which we herewith submit as part of our Report. Also the reports of the Committee on Accounts, the Treasurer and Auditor.

We cannot close without referring to the cheerful and prompt response to our many calls made upon our City Engineer by us in the progress of the work; with the able advice of Mr. Crafts, as consulting and assistant Engineer, and a faithful corps of workmen in his department, all our calls have been met with the speedy performance of the needed work.

C. W. KINGSLEY,
L. M. HANNUM,
JOHN F. O'BRIEN,
K. S. CHAFFEE,
C. G. H. BENNINK,
JAS. M. W. HALL,
} *Water Board.*

REPORT

OF

THE WATER REGISTRAR.

WATER REGISTRAR'S OFFICE,
CAMBRIDGE, DEC. 4, 1885.

To the Cambridge Water Board:—

IN compliance with the requirement of the City Ordinance, I present the twenty-first annual report of the operations of this department, showing the receipts, expenditures, and abatements, together with a statement of the number of water-takers, fixtures, etc., for the year ending Nov. 30, 1885.

Amount of bills remaining unpaid Nov. 30, 1884:—		
Water-rates	$44.75	
Meter-rates	49.80	
Supplies and repairs	847.01	
	$941.56	
Amount of bills placed in hands of City Treasurer for collection from Nov. 30, 1884, to Nov. 30, 1885:—		
Water-rates	154,069.36	
Meter-rates	36,213.40	
Supplies and repairs	6,110.14	
Off and on water, fines, and seals	447.50	
Total bills		$197,781.96
There have been collected:		
Water-rates	$186,805.14	
Off and on, seals, and fines	447.50	
Supplies and repairs	6,250.55	
Total collections	$193,503.19	
There have been abated:—		
Water-rates	$3,144.48	
Supplies and repairs	6.50	
	3,150.98	
Amounts carried forward	$196,654.17	$197,781.96

Amounts brought forward		$196,654.17	$197,781.96
There remain unpaid :—			
Water-rates	$78.29		
Meter-rates	349.40		
Supplies and repairs	700.10		
		$1,127.79	
			$197,781.96

Expenditures.

Construction account (general)		$12,391.28	
Construction account (Stony Brook)		292,122.50	
Maintenance account, viz. :—			
Care and repairs	$18,564.27		
Pumping service	7,819.40		
New pumping service (salaries, coal, etc.,)	849.77		
Office expenses	2,681.07		
		29,914.51	
Supply and repair account		4,491.97	
Total			$338,920.26

Abatements.

Water-rate bills to the amount of	$3,144.48	
Supply and repair bills to the amount of . .	6.50	
Total		$3,150.98

Charges for water-rates, when the supplies are afterwards shut off, or fixtures sealed, are necessarily abated before the accounts can be balanced. New charges are then made when the water is again let on.

Refunds.

Water-rates have been refunded to the amount of	$1,260.78
Which amount deducted from receipts	186,805.14
Leaves net receipts for water	$185,544.36
Add off and on, seals, and fines	447.50
Makes net receipts of rates, fines, etc., ...	$185,991.86

Off and On.

Water has been shut off for non-payment of rates, or per order, on account of vacancy, and seals have been applied to fixtures by request of owners or occupants, as follows:—

Supplies shut off in 1885	407
" let on, shut off in 1885	305
" let on, shut off in previous years	41
New supplies let on	381
Seal-locks applied to fixtures in 1885	371
" removed, put on in 1885	149
" removed, put on in previous years	157

Statement of the yearly revenue received from water-rates, since the purchase of the Works by the city: —

From	April	28, 1865,	to	Dec.	1, 1865	$32,367.19
"	Dec.	1, 1865,	"		1, 1866	40,073.27
"	"	1, 1866,	"		1, 1867	52,733.62
"	"	1, 1867,	"		1, 1868	63,747.42
"	"	1, 1868,	"		1, 1869	76,149.30
"	"	1, 1869,	"		1, 1870	92,606.95
"	"	1, 1870,	"		1, 1871	111,782.65
"	"	1, 1871,	"		1, 1872	127,201.30
"	"	1, 1872,	"		1, 1873	146,117.32
"	"	1, 1873,	"		1, 1874	153,634.27
"	"	1, 1874,	"		1, 1875	138,880.37
"	"	1, 1875,	"		1, 1876	179,166.76
"	"	1, 1876,	"		1, 1877	154,843.59
"	"	1, 1877,	"		1, 1878	157,443.91
"	"	1, 1878,	"		1, 1879	164,681.90
"	"	1, 1879,	"		1, 1880	173,325.49
"	"	1, 1880,	"		1, 1881	170,062.73
"	"	1, 1881,	"		1, 1882	177,430.80
"	"	1, 1882,	"		1, 1883	179,361.89
"	"	1, 1883,	"		1, 1884 (10 months)	161,526.27
"	"	1, 1884,	"		1, 1885	185,544.36

Comparative Statement.

	1884.		1885.	
Construction Account.				
Received				
Expended		$31,519.74	$12,391.28	
" (balance due city treasury last year)			43.04	
		$31,519.74		$12,434.32
Supply Account.				
Received		$4,855.66		$6,250.55
Expended		5.234.96		4,491.97
Excess of Expenditures		$379.30		
Excess of Receipts				$1,758.58
Maintenance Account.				
RECEIVED.				
Rates, fines, etc		$162,042.27		$185,991.86
EXPENDED.				
Care and repairs	$28,765.33		$29,914.51	
Interest on Water debt	84,451.00		92,725.00	
Paid to Sinking Fund Commis'rs	42.705.00	155,921.33	52,425.00	175,064.51
Excess of receipts		$6,120.94		$10,927.35
Construction Acc't. (Stony Brook.)				
RECEIVED.				
From bonds issued (par value)			$288,000.00	
From premium on bonds			19,550.40	
Commonwealth of Mass			15.73	$307,566.13
EXPENDED.				
Sundry bills			$292,122.50	
Balance of Appropriation			15,443.63	$307,566.13

1884.	Maintenance Account, excess of receipts	$6,120.94
	Supply Account, excess of expenditures	379.30
	Excess of total receipts over total expenditures	$5,741.64
1885.	Maintenance Account, excess of receipts	$10,927.35
	Supply Account, excess of receipts	1,758.58
	Excess of total receipts over total expenditures	$12,685.93
	Expended on Construction Account (general)	12,434.32
	Balance due Sinking Fund	$251.61

The excess of receipts for 1885, as shown in the above comparative statement, amounting to $251.61, has been carried to the Sinking Fund, as required by law.

Last year the City Council changed the date of payment of annual bills from July 1 to May 1, giving us but 10 months' receipts. This year we received a full year's receipts, and a marked increase in receipts in consequence.

Beside the manufactories, etc., supplied by meter, water is now supplied to 12,793 families, 819 stables, with 1,978 horses and 268 cows, 224 shops, 351 stores and offices, by the following fixtures, viz: —

15,672 faucets.	21 hopper-closets
4,113 wash-basins.	84 urinals.
2,626 wash-tubs.	47 yard hydrants.
2,329 bath-tubs.	4 fountains.
6,254 pan-closets.	3 tumbler-washers.
802 slop-closets.	998 hand-hose.

Also,

601 fire-hydrants (beside 4 on private premises).
13 fire reservoirs.
15 drinking-fountains in public squares.

The above is exclusive of the school-houses, engine-houses, police stations, and other city buildings, for which special rates are charged, except where meters are located.

All premises supplied with Fresh Pond water have been visited during the year, and from this inspection, aided by reports from plumbers, a considerable amount of water-rates has been added for fractional parts of the year.

Respectfully submitted,

WALTER H. HARDING,

Registrar.

REPORT

OF THE

COMMITTEE ON ACCOUNTS OF THE CAMBRIDGE WATER BOARD.

We have examined the abstract of accounts as presented us by the Water Registrar, covering the records of the past year. We have compared these with the statements submitted to us by the City Treasurer and Auditor, and we find them to be correct and in agreement. Annexed is the financial statement, in brief, presented to us by the Water Registrar and verified by us:—

Amount of bills in hands of City Treasurer, Nov. 30, 1884:—			
For water-rates		$44.75	
" meter-rates		49.80	
" supplies and repairs		847.01	
			$941,56
Amount of bills delivered to the City Treasurer for collection during the year ending Nov. 30th, 1885:—			
For water-rates		$154,069.36	
" meter-rates		36,213.40	
" supplies and repairs		6,110.14	
" off and on, seals, and fines		447.50	
			196,840.40
Total bills			$197,781.96
Of these amounts the Treasurer has collected	$193,503.19		
Less refunded	1,260.78		
		$192,242.41	
Amounts carried forward		$192,242.41	$197,781.96

Amounts brought forward	$192,242.41	$197,781.96
Refunded as above	1,260.78	
Abated	3,150.98	
Balance uncollected, Nov. 30th, 1885	1,127.79	
		$197,781.96

JAS. M. W. HALL,
WM. E. RUSSELL,
C. G. H. BENNINK,
} *Committee on Accounts.*

CAMBRIDGE, Dec. 1st, 1885.

ANNUAL STATEMENT OF THE WATER REGISTRAR TO THE COMMITTEE ON ACCOUNTS, DEC. 1, 1885.

Water-rates unpaid Nov. 30th, 1884		$94.55	
Bills placed in hands of City Treasurer for collection from Dec. 1st, 1884, to Dec. 1st, 1885: —			
Water-rates from annual ledger .	$141,301.40		
Water-rates from fractional ledger	12,674.18		
Water-rates from meter ledger .	36,213.40		
Water-rates from building account	93.78		
Off and on, and fines	340.00		
Seals	107.50		
		190,730.26	
Total bills on rates, fines, etc. . . .		$190,824.81	
Supply and repair bills unpaid Nov. 30th, 1884	$847.01		
Supply and repair bills placed in hands of City Treasurer for collection Nov. 30th, 1884, to Nov. 30th, 1885	6,110.14		
		6,957.15	
Total bills			$197.781.96
There has been collected, annual ledger	$139,225.08		
There has been collected, fractional ledger	11,608.63		
There has been collected, meter ledger.	35,877.65		
There has been collected, building account	93.78		
There has been collected, off and on, and fines	340.00		
There has been collected, seals .	107.50		
Total collections on rates, fines, etc. .		$187,252.64	
Collections on supply and repair accounts . .		6,250.55	
Total collections . .		$193,503.19	
Amount carried forward		$193,503.19	

Amount brought forward		$193,503.19	
There have been abated, water rates	$3,144.48		
There have been abated, supplies and repairs	6.50		
		3,150.98	
There remain uncollected, water-rates	$427.69		
There remain uncollected, supplies and repairs	700.10		
		1,127.79	
			$197,781.96
Total collections	$193,503.19		
Less refunds	1,260.78		
Total net receipts . . .		$192,242.41	

Attest: WALTER H. HARDING,
Registrar.

REPORT

OF THE

SUPERINTENDENT OF THE WATER WORKS.

CAMBRIDGE, Dec. 1, 1885.

To the President and Members of the Cambridge Water Board:—

GENTLEMEN,—In compliance with the City ordinance, I herewith present my annual report upon the condition of the Works and the operations of the past year.

The total amount of water pumped was 1,125,252,287 gallons. Coal consumed per million gallons pumped, $1,602\frac{2}{10}$ pounds. Water sold by meter, and that used for watering streets, 278,959,925 gallons, leaving as the amount for domestic use 846,292,362 gallons. Number of gallons daily for each inhabitant on whole amount pumped, $49\frac{72}{100}$ gallons. Number of gallons daily for each inhabitant on amount for domestic use, $37\frac{4}{10}$ gallons.

Stony Brook Extension.

The work of laying the 30-in. and 36-in. pipe line to Stony Brook was commenced in Fresh Pond, February 2d, and continued until the 11th, when all pipes in the Pond were laid. On account of cold weather, work was then suspended until March 11th, when it was resumed and pushed forward to its completion at Stony Brook (except about 650 ft. on the dam), on Nov. 14th. The total length of 30-in. and 36-in. pipe laid is 39,754 ft., divided as follows:—

8,339 feet from Fresh Pond to Union Market Station, Watertown, 30-inch.
14,105 feet from Union Market Station to Waltham line, 30-inch.
9,394 feet from Watertown and Waltham line to Foot-bridge, 30-inch.
3,100 feet from Foot-bridge to Waltham Pumping Station Road, 30-inch.
4,400 feet from Pumping Station Road to the Dam, 36-inch.
426 feet on the Dam, 30-inch.

39,754 feet.

There were set one 36-inch, nine 30-inch, two 12-inch, and thirteen 6-inch gates and seven air-cocks.

The section from Union Market Station to Waltham line was laid by contract with H. H. Pike & Son. The remainder of the work was performed by day labor under the immediate charge of Thomas Eames as foreman and Joseph Barker as time-keeper and assistant. Credit is due them for the faithful manner in which they performed their duties, the whole being completed without complaint or serious accident.

Street Main Pipe.

Main pipes have been laid in the following streets:—153 ft. of 4-in. in Eustis Court, 300 ft. of 4-in. in Harris Court, 478 ft. of 4-in. in Hurlbert St., 213 ft. of 4-in. in Foster St., 88 ft. of 4-in. in Rockingham St., 160 ft. of 2-in. in Norfolk Court, 930 ft. of 4-in. in Bolton St., 36 ft. of 6-in. in Carver St., 187 ft. of 4-in. in Lancaster St., 266 ft. of 4-in. in Jay St., 392 ft. of 6-in. in First St., 48 ft. of 4-in. in Elm St., 101 ft. of 1-in. in Union Court, 190 ft. of 4-in. in Douglass St., 67 ft. of 6-in. in Martin St., 84 ft. of 6-in. in Clay St., 120 ft. of 6-in. in Montgomery St., 60 ft. of 6-in. in Hastings Square, 57 ft. of 6-in. in Brattle and Riedesel Avenue, 206 ft. of 4-in. in Riedesel Avenue, 388 ft. of 6-in. in Cushing St., 120 ft. of 6-in. in Munroe St., 368 ft. of 8-in. in Albany St., 6 ft. of 6-in. in Norris St., 457 ft. of 4-in. in Norris St., 185 ft. of 4-in. in Franklin St., 227 ft. of 4-in. in Hancock St., 257 ft. of 8-in. in Mt. Auburn St., 208 ft. of 4-in. in Mt. Auburn St., 337 ft. of $1\frac{1}{4}$-in. in Concord Avenue, 243 ft. of 1-in. in Concord Avenue, 125 ft. of 4-in. in Sixth St., 9 ft. of 6-in. in Blackstone St., 129 ft. of 6-in. in Garfield St., 8 ft. of 6-in. in Inman St., 120 ft. of 4-in. in Parker St., 415 ft. of 4-in. in Howard St., 36 ft. of 4-in. in Ash St. Court, 9 ft. of 6-in. in Ellery St., 274 ft. of 4-in. in Cleveland St., 3 ft. of 6-in. in Flagg St., 162 ft. of 4-in. in Glenwood St., 290 ft. of 4-in. in Kinnaird St., 788 ft. of 6-in. in North St., substituted in place of 4-in. pipe removed. A pipe bridge has been built over the railroad at Mt. Auburn and connection made with the Cushing St. District. There are now an 8-in. and a 4-in line in that district.

High Service.

No extension of high-service pipes has been made. All on its lines are adequately supplied and the system is giving perfect

satisfaction, no complaint of any kind having been made. The check-valve on Sparks St. has been removed.

New Supplies.

393 new supplies have been laid during the year, making at this date a total of 8,731. 19 old supplies have been removed and 80 have been furnished with sidewalk shut-offs.

Hydrants.

Ten new post-hydrants have been set during the year and two flush-hydrants have been removed, viz: — on Sparks St. in front of C. T. Russell's house and on North St. in front of Glass Co.'s Factory. The totals at date are 289 post-hydrants and 320 flush-hydrants. There are also five flush-hydrants on private premises viz: — two on premises of New England Glass Co. on North St., two on premises of Boston and Lowell Railroad Co. on Prison Point St., and one on premises of C. L. Jones & Co. on Pearl St. Thirteen street reservoirs are furnished with supplies. Thirteen new hydrant-boxes and sixty-seven gate-boxes have been set in place of decayed ones removed.

Leakage.

Six hundred and forty-eight leaks have been stopped viz: — six on 3-in. main, nine on 4-in. iron main, two on 4-in. cement main, five on 6-in. main, one on 8-in main, one on 12-in. main, one on 20-in. main, seventy-one on supplies in street, three supplies on premises, one at flush-hydrant, and five hundred and forty-eight on premises reported by inspector and repaired by owner or occupant.

All the fixtures throughout the City have been inspected once and nearly all of them twice.

All the main pipes in Ward 3 have been tested except the 10-in., 12-in. and 20-in. mains.

Drinking Fountains.

The drinking-fountain at Fifth and Cambridge Sts. has been discontinued and removed. A cesspool has been built around the fountain in Brattle Square and the fountain has been removed from Putnam Avenue at Pearl St. to Putnam Avenue at Brookline St. The number of fountains is fourteen.

Stand-pipes for Street Watering.

Two new stand-pipes for street-watering have been established viz: — on Concord Avenue in front of school-house, and at corner of Spruce and Cedar Sts. The number at this date is 40.

Fresh Pond.

The work of clearing out the Nook at the southerly corner of the Pond and improving the borders has been completed, and the banks are now thoroughly riprapped in this neighborhood from the high bluff, easterly around Boat-House Nook, to opposite the Fresh Pond Hotel. The old Boat-House has been removed, the old willow trees cut down and a very desirable improvement obtained. The road from Fresh Pond Lane to the Pond has been widened to 40 ft.

The water in Fresh Pond reached its highest point, 10.61, on May 4th, and its lowest, 5.95, on Oct. 29th. The auxiliary pumps were put in operation Aug. 17th, the water in the Pond being down to 7.70 or 1.30 below top of the conduit.

Pumping Works.

The wood work in the engine-house has been oiled and varnished, the engineer's house painted, the walks of the engine-house lot and Tudor Park graded, and the grass cut. A new fence should be built around both the above lots the coming season.

Reservoirs.

All of the large gates at and around the reservoirs have been repacked and tested and are in first-class condition. The capping stones of the high wall on Reservoir Street have been noticeably pushed out by the frost. There is a slight leak near the stand-pipe which will be repaired at an early day. The walks have been kept graded and the grass cut.

Spy and Little Ponds, Wellington Brook, and Conduit.

The houses and gates are in good condition. No water has been drawn from either pond. The filter-basin is in good order. Water was drawn from this source Feb. 10th to March 2d.

There is no change in the condition of Wellington Brook since last report. Water was taken from this source Jan. 17th to April 5th. The conduit appears to be in good condition.

Brookline Street Pipe Bridge.

The siphon has been pumped out and the pipe bridge is in good repair.

Pipe Yard.

The stable at the pipe yard has been raised and much improved by the addition of an L about 40 ft. long. The buildings are in good condition except the dwelling house, which needs shingling and painting.

The following tables show the locations of meters, fountains and stand-pipes, the details of main and supply extension, and the account of stock on hand.

Accompanying this report is that of the Engineer at the Pumping Station, with a full account of the operations at the engine-house.

Respectfully submitted,

HIRAM NEVONS,

Superintendent.

List of Meters in Use November 30, 1885.

Meters.	Locality.	Size.	Description.
Alghieri, Simon	Main st	¾	Worthington
Andrews, D. H.	Sixth st	1	Union
Ameriean Rubber Co.	Potter st	4	Crown
" " "	Potter st	6	Gem
Ameriean Net & Twine Co	Third st	1½	Worthington
American Steam Safe Works	Main st	1	"
Aquinas Hall	Harvard st	1	"
Barbour, W. O	Osborn st	1	"
Bay State Brick Co	Spruee st	¾	"
Barnes, F. G. (Felton Hall)	Cambridge st	1½	"
Balcom, A. W.	Austin st	¾	Union
Berry, Casper	Elm st	1	Crown
Bird, H. M.	Broadway	⅝	Union
Bullock, O. S.	Broadway	¾	Worthington
Burton, A. & E.	Harvard st	¾	"
Boston Woven Hose Co.	Hampshire st	4	"
" " " "	Broadway	1½	"
Boston Stamping Co	Third st	2	"
Brown & Higgins	Sands st	1	"
B. & L. R. R., (Repair shop)	Bridge st	2	"
" " " (Round house)	Prison Point st	2	"
" " " " "	Prison Point st	2	"
" " " (Paint shop)	Prison Point st	1	"
" " " (Car-house)	Prison Point st	2	"
" " " (Filling locom.)	Prison Point st	6	Union
Carr Bros.	Lopez st	1	Worthington
Cambridgeport Diary Co.	Magazine st	1	"
Cambridge Gas Light Co.	Third st	1½	Crown
" " " "	Ash st	¾	Worthington
Campbell Bros.	Main st	¾	"
Charles River R. R. Co	Hampshire st	¾	Crown
" " "	Brookline st	1	Worthington
" " "	Tremont st	¾	Equitable
" " "	Green st	¾	Worthington
City of Cambridge (Shepard sch.)	North av	2	"
" " (Ward 1 Bld.).	Brattle sq	1½	"
" " (" 4 ").	Central sq	1½	"
" " (Upton sch.)	Upton st	2	"
" " (Cemetery)	Coolidge av	4	"
" " (Almshouse)	Tannery st	2	"
Cambridge R.R.Co. (Paint shop)	Dunster st	¾	"
" " (Repair shop)	Dunster st	¾	"
" " (Car house)	Dunster st	¾	"
" " (Wood stable)	Dunster st	¾	"
" " (Brick stable)	Dunster st	¾	"
" " (Office)	Harvard sq	¾	Crown
" " (Washing ears)	Murray st	1½	"
" " (Stable)	Murray st	1½	Worthington
" " (Car-house)	Cambridge and Baldwin	1	Desper
" " (Stable)	Baldwin st	1	Worthington
" " (Brick stable)	Cambridge st	1	"
" " (Stable)	Cambridge st	1	"
" " (Stable)	Cambridge st	1	"
" " (Stable)	Mt. Auburn st	1	"
" " (Stable)	North av	2	"
" " (Stable)	Main st	2	"
" " (Stable)	River st	1	"
Cushman Bros.	Main st	¾	Desper
Close, George	Broadway	1	Worthington
Caswell & Coolidge	Franklin st	1½	"
Coleman, John & Son	Broadway	1	"
Clark, B. P. & Co.	Main st	1½	"
Cochrane, A. & Co	Potter st	1	Crown
Cofran, S. M.	Concord av	2	Worthington
Coolidge, J. G. (Greenhouse)	Coolidge av	1	"
" " (Barn)	Coolidge av	2	"
Davis, Curtis & Co.	Broadway	2	"
Dugan & Rutherford	First st	1	Crown
Davis, J. C. & Son	Broadway	2	"
Daniels Badger & Co	First st	¾	Worthington
Davenport, A. H.	Cambridge st	2	"
Dailey, C. W.	Cambridge st	1	"
Derby, H.	Main st	1	Crown

List of Meters (Continued).

Meters.	Locality.	Size.	Description.
Downing, Theo	Eustis ct	1	Worthington
Draper, Francis & Co	Otis st	¾	"
De Rosay, L. E. & Sons	Dublin st	¾	"
Dow, Davis & Co	Portland st	2	Crown
Dee, T. W	Brattle st	1	Equitable
East Cambridge Club Stable	First st	1	Worthington
Episcopal Seminary	Brattle st	1½	"
Farrell & Nagle	Frank st	1½	"
Fenton, N. & Co	Gore st	¾	Desper
Gilmore & Eustis	Portland st	2	Worthington
Goepper Bros	Ninth st	1	"
Greely, Leander	Broadway	1½	"
Griffin & Dolan	Decatur st	¾	Desper
Harvard College, (Holworthy Hall)	College grounds	¾	Worthington
" " (Boylston Hall)	College grounds	2	Crown
" " (Stoughton Hall)	College grounds	¾	Worthington
" " (Sever Hall)	Quincy st	¾	Crown
" " (Thayer Hall)	Cambridge st	1½	Worthington
" " (In yard)	College grounds	1½	"
" " (Memorial Hall)	Cambridge st	2	"
" " (Boat-house)	Flagg st	¾	Desper
" " (Botanic Garden)	Garden st	1	Crown
" " (Gymnasium)	Cambridge st	1½	"
" " (Holyoke house)	Harvard st	2	Worthington
" " (Museum)	Divinity av	1	"
" " (Scientific sch.)	Kirkland st	⅝	Desper
" " (Law school)	Holmes place	1½	Worthington
" " (Laboratory)	Holmes place	1	"
" " (Jarvis field)	Everett st	¾	Equitable
Hilton, J. M	Harvard st	1½	Crown
Hazlett, W. H. & Co	Otis st	1½	Worthington
Hews, A. H. & Co	Richdale av	1	"
Hixon, Edw. & Co	Main st	1	Ball & Fitts
Houghton, H. O. & Co	Blackstone st	2	Worthington
Hovey & Co	Cambridge st	1	"
Howe & Putney	Distillhouse st	1	"
Hopkins, J. H. T	Prospect st	¾	"
Harvard Skating Rink	Putnam av	¾	"
Ivers & Pond (Factory No. 1)	Albany st	2	"
" " (Factory No. 2)	Albany st	2	Crown
Johnson & Doane	Green st	¾	Worthington
Jaques & Eustis	Main st	1	Crown
Jones, C. L. & Co	Pearl st	¾	Desper
Kemp, L. & Sons	Davis st	1	Worthington
Kennedy, F. A. & Co	Green st	1½	"
Kendall & Roberts (Engine room)	Main st	2	"
" " (Boiler shop)	Main st	¾	Equitable
" " (Foundry)	Main st	¾	Worthington
Low, J. W.	Reed st	1½	"
Little, Brown & Co	Blackstone st	¾	Ball & Fitts
Lamb & Ritchie	Albany st	¾	Worthington
Mason & Hamlin	Broadway	1½	Crown
Middlesex Bleachery	Sacramento st	1	Worthington
Middlesex Co. (Court house)	Otis st	¾	"
" " (Court house)	Thorndike st	¾	Union
" " (H. of Correction)	Thorndike st	4	"
" " (Registry of Deeds)	Otis st	¾	Worthington
Millan, Alex	Brattle sq	¾	Crown
Moore, Chas	Farwell place	1	Worthington
Moering, Mrs. A. L. (Beek Hall)	Main st	1	"
Murdock, W. H	Grigg st	½	Desper
Mt. Auburn Corpt'n (Greenhouse)	Brattle st	1	Worthington
" " (Cemetery)	Mt. Auburn st	⅝	Desper
Maverick Oil Co	Sixth st	2	Worthington
New England Glass Works	North st	2	"
New England Hoop Dressing Co.	Earle st	1	Crown
Norton, Edw. H	Winsor st	¾	Desper
North, C. H	Columbia st	2	Worthington
O'Brien, J. F	Coolidge av	¾	"
Page, Geo. G., Box Co	Hampshire st	2	"
Parry Bros. & Co	Raymond st	¾	"
Pike, Joel S. & Co	Church st	1	"

List of Meters (Continued).

Meters.	Locality.	Size.	Description.
Pike, Joel S. & Co	Palmer st	1	Ball & Fitts
Porcellian Club	Harvard st	1	Crown
Porter's Hotel	North av	¾	Worthington
Ross, Mrs. H. P	Broadway	¾	Equitable
Reardon, John & Sons	Waverly st	4	Worthington
Reardon, Wm	Portland st	2	Crown
Revere Sugar Ref. (North side)	Water st	3	Union
" " " (South side)	Water st	3	Worthington
Reversible Collar Co	Mt. Auburn st	1	"
Rawson & Morrison	Main st	¾	"
Rideout, M. E.	State st	1	"
Roberts, O. P	Brattle sq	1	"
Ross, A. M	Main st	¾	"
Rogers, Geo. M	Washington st	3	"
Russell & Zeregas	State st	¾	"
Standard Carpet Lining Co	Third st	2	Crown
Standard Turning Works	Broadway	1	Worthington
Sargent, Dr. D. A.	Palmer st	1	Ball & Fitts
Sands, M. W	Walden st	¾	Worthington
Shorey, Geo. L	Soden st	1½	"
" "	Kinnaird st	2	"
Smart, D. C	Main st	2	"
Sortwell & Co	Distillhouse st	2	"
St. Mary's Orphan Asylum	Cambridge st	1	"
Squire, J. P. & Co	Gore st	4	"
" " (Stable)	Gore st	1	"
" "	Gore st	2	"
" "	Gore st	6	Gem
Slavens, J. W. L	Bridge st	1	Crown
St. Mary's Church	Norfolk st	2	Worthington
Tower, Sylvester	Broadway	2	"
Thurston & Hall	Elm st	¾	"
Tug "Henry Chapel"	First st	2	Crown
Teele, Frank H	Lincoln et	¾	Worthington
Thayer, Henry & Co	Broadway	2	"
Tribune Publishing Co	Linden st	¾	Crown
Traey, M. F	Boylston st	1	Desper
Temple, F. L	Kirkland st	2	Worthington
Union Pacific Tea Co	Main st	¾	Union
Uhrig, Joseph	Main st	1½	Worthington
Union Glass Co. (Pot room)	Webster av	1	"
" " " (Paeking room)	Webster av	¾	Crown
Varnum, W. H.	Putnam av	¾	Worthington
Whitney, H. W	Main st	¾	Crown
Wilson, John & Son	Brattle st	¾	Worthington
Woodbridge, S. F.	Frank st	1	"
Wight & Seorgie	Mt. Auburn st	¾	Desper
Waitt & Watt	Otis st	1	Worthington
Woods, Paige & Co	Main st	¾	"
Cambridge Y. M. C. A.	Central sq	2	"

List of Drinking-Fountains, Nov. 30, 1885.

Bridge Street, junction of Cambridge Street.
Broadway, southwest corner of Norfolk Street.
Brattle Square, east side at Brewer's Block.
Brattle Street, junction of Fresh Pond Lane.
Central Square, west side.
Central Square, east side.
Hampshire Street, junction of Broadway.
Harvard Square, at the flag-staff.
Inman Square, east side.
Main Street, junction of Broadway.
Main Street, junction of Mt. Auburn Street.
North Avenue, southwest corner of Walden Street.
North Avenue, north side, west of Cameron Street.
Putnam Avenue, southwest corner of Brookline Street.

List of Stand-Pipes for Street Watering, Nov. 30, 1885.

Brattle Street, near University Press.
Brattle Street, corner Sparks Street.
Brattle Street, near Fayerweather Street.
Brattle Street, near Fresh Pond Lane.
Bridge Street, junction of Cambridge Street.
Broadway, near Third Street.
Broadway, corner of Sixth Street.
Broadway, corner of Winsor Street.
Broadway, junction of Hampshire Street.
Brookline Street, corner of Putnam Avenue.
Cambridge Street, near Warren Street.
Cambridge Street, near Winsor Street.
Cambridge Street, at Inman Square.
Columbia Street, near Austin Street.
Concord Avenue, in front of School-House.
Dana Street, corner of Chatham Street.
Gore Street, west of Third Street.
Green Street, near Western Avenue.
Harvard Street, corner of Prescott Street.
Inman Street, near Broadway.
Kirkland Street, near Quincy Street.
Main Street, near Portland Street.

Main Street, near Hancock Street.
Magazine Street, opposite Warland Street.
Mt. Auburn Street, near Athens Street.
North Avenue, near Common.
North Avenue, corner of Sacramento Street.
North Avenue, near Roseland Street.
North Avenue, near Beech Street.
North Avenue, near Spruce Street.
North Avenue, corner of Norris Street.
North Avenue, opposite Tannery Street.
Prison Point Street, opposite Round House.
River Street, near Putnam Avenue.
Sixth Street, near Thorndike Street.
Spruce Street, at Cedar Street.
Third Street, near Rogers Street.
Thorndike Street, near Third Street.
Western Avenue, near Howard Street.

Main Pipe Laid, Number of Gates and Fire Hydrants.

Locations.	Iron Pipes.		Gates.		Hydrants.	
	Length.	Size.	No.	Size.	No.	Size.
	Feet.	Inch.		Ineh.		Inch.
Sparks Street			1	6	1	6
Eustis Court	153	4	..	..	..	
Harris Court	300	4	..	..	..	
Hurlbert Street	478	4	1	4	..	
Foster Street	213	4	..	..	..	
Roekingham Street	88	4	..	:	..	
Norfolk Court	160	2	..	..	..	
Bolton Street	930	4	1	4	..	
Carver Street	36	6	..	..	..	
Lancaster Street	187	4	..	..	..	
Jay Street	266	4	..	..	..	
North Street (relaid)	788	6	..	..	2	6
First Street	392	6	..	..	..	
Elm Street	48	4	..	..	..	
Union Street Court	101	1	..	..	..	
Douglass Street	190	4	1	4	..	
Martin Street	67	6	.	..	..	
Clay Street	84	6	..	..	..	
Montgomery Street	120	6	..	..	..	
Riedesel Avenue	206	4	..	..	..	
Brattle St. and Riedesel Av.	57	6	1	6	1	6
Cushing Street	388	6	..	..	1	6
Munroe Street	120	6	..	..	..	
Albany Street	368	8	..	..	..	
Hastings Square	60	6	..	..	..	
Norris Street	6	6	..	..	1	6
" "	457	4	1	4	.	
Franklin Street	185	4	1	4	..	
Hancoek Street	227	4	1	4	..	
Mount Auburn Street	257	8	1	8	..	
" " "	208	4	..	..	..	
Concord Avenue	243	1	..	..	..	
" "	337	$1\frac{1}{4}$	..	..	..	
Sixth Street	125	4	1	4	..	
Blaekstone Street	9	6	..	..	1	6
Garfield Street	129	6	..	..		
Inman Street	8	6	..	..	1	6
Parker Street	120	4		..	..	
Howard Street	415	4	1	4	..	
Ash Street Plaee	36	4	..	..	..	
Ellery Street	9	6	..	..	1	6
Cleveland Street	274	4	.	..	..	
Flagg Street	3	6	..	..	1	6
Glenwood Street	162	4	..	..		
Kinnaird Street	290	4	1	4		
Stony Brook (day labor)	4,400	36	1 5	36 30		
" " " "	21,249	30	8 4	6 30		
" " by eontraet	14,105	30	2 5	12 6		

Recapitulation.

	36 Inch.	30 Inch.	12 Inch.	8 Inch.	6 Inch.	4 Inch.	2 Inch.	1¼ Inch.	1 Inch.	Total
Length in feet of iron pipe	4,400	35,354	.....	625	2,276	5,558	160	337	344	49,054
Number of gates	1	9	2	1	15	9	.....	.....	.....	37
Number of hydrants.....	.....	.....	.....	.....	10	.....	.....	.....	.....	10

New Supplies.

GALVANIZED PIPE AND BRASS FITTINGS USED FROM DEC. 1, 1884 to NOV. 30, 1885.

	4 Inch.	3 Inch.	2 Inch.	1½ Inch.	1¼ Inch.	1 Inch.	¾ Inch.	Total
Length in feet of pipe laid.....	50	13	267	246	204	1,496	12,031	14,307
Number of supplies.....	2	1	7	7	5	20	351	393
Number of stop and wastes.....	4	.....	7	7	5	20	352	395
Number of screw cocks.....	.....	.....	7	7	5	20	346	385
Number of sidewalk cocks.....	.....	.....	.....	.....	.....	20	352	372
Number of stand-pipes.....	.....	.....	.....	.....	.....	.....	.....	370
Number of boxes, frames, covers.....	.....	.....	.....	.....	.....	.....	.....	20

List of Check-Valves.

OLD HIGH-SERVICE.

	Size in inches.
Lake View Avenue, 150 feet north from Huron Street.....	10
Lake View Avenue, 150 feet north from Brattle Street.....	6
Fayerweather and Reservoir Streets.....	6
Concord Avenue, 135 feet south from Buckingham Street.....	6
Buckingham Street, 220 feet west from Concord Avenue.....	6
Garden and Linnæan Streets.....	6
Raymond and Linnæan Streets.....	6
Avon Hill and Linnæan Streets.....	6
Arlington Street, 230 feet west of North Avenue.....	6
Mt. Vernon Street, 100 feet west from North Avenue.....	6
Mt. Pleasant Street, 150 feet south from Walden Street.....	6

List of Check-Valves.—Continued.

New High-service.

	Size in inches.
Highland Street, on old 12-inch supply main	12
Dana Street and Broadway	4
Harvard Street, near Hancock	6
Centre Street, near Hancock	4
Dana Street, near Main	4
Harvard and Ellery Streets, two valves	6
Harvard and Trowbridge Streets, two valves	4
Harvard and Ware Streets	4
Harvard and Prescott Streets	4
Quincy Street, near Broadway	4
Broadway, on line of 6-inch pipe crossing College Grounds	6
Waterhouse Street, near small common	6
Kirkland and Cambridge Streets	10
Berkely Street, near Craigie	4
Appian Way, near Brattle Street	4
Linnæan and Lancaster Streets (old high-service extension)	6
Kirkland Street and Frisbie Place	4

Statement of Stock on Hand Dec. 1, 1885.

For Street Mains (Iron Pipe and Fittings.)

	48 in.	30 in.	24 in.	20 in.	16 in.	12 in.	10 in.	8 in.	6 in.	4 in.	3 in.
Straight pipes (12 feet each)	2	....	....	16	14	1	17	43	183	136	
Bends	....	2	1	....	3	1	...	6	12	9	1
Y Branches	....	....	1	1-12	....	1	....	....	....	....	
Sleeves	....	....	4	8	1	4	4	6	11	....	7
Clamp sleeves	....	....	4	4	2	4	6	13	6	16	5
Drain offsets	....	....	....	....	....	....	....	....	11	....	
Offsets	....	....	....	....	....	....	6	5	26	....	
Gates	....	....	....	....	...	....	....	1	5	1	
Check-valves	....	....	2	....	....	....	1	....	....	....	
Blow-off branches	....	....	3-6	2-6	....	....	....	....	....	....	
Caps	....	....	....	....	2	....	8	6	8	7	
Clamps for cement pipe	....	....	...	2	....	....	....	....	....	....	
T's	....	....	1-24	1-20	1-6	1-8	1-8	6-8	2-6	5-4	2-3
"	....	....	4-6	1-16	....	1-6	13-6	4-6	7-4	....	
"	....	....	....	1-12	....	....	....	....	....	....	
"	....	....	....	1-10	....	...	....	....	.. .	....	
"	....	....	....	2-6	...	....	....	....	....	....	
Crosses	....	....	....	1-20	1-12	5-10	2-10	1-8	6-6	16-4	1-3
"	....	....	....	2-10	3-6	5-4	2-8	1-4	9-4	....	
"	....	....	...	....	....	....	17-6	...	....	....	
"	....	....	....	...	....	....	1-4	....	....	....	
Reducers	....	....	1-10	1-12	1-8	....	3-8	2-6	10-4	9-6	4-4
"	....	....	....	1-10	....	....	2-6	....	....	....	
"	....	....	....	1-8	....	....	....	....	....	....	

For Supplies (Galvanized Pipe and Brass Fittings).

	2 in.	1½ in.	1¼ in.	1 in.	¾ in.	½ in.
Feet in length of galvanized pipe	374	897	352	300	1,091	
Elbows	30	52	8	40	144	
Street elbows				5	30	
Couplings	50	60	17		48	
Unions	50	40		65	86	
Faucets				12	14	20
Stop and wastes	12	16	17	38	180	
Screw-cocks	7	6	3	35	180	
Sidewalk cocks				18	26	
Screw-cocks for cement pipe				30		
Blow-off cocks		7				
Air-chambers				44	40	35
Socket end of rod					30	
Nipples		12	30	30	50	
Plugs, different sizes, 90						
Bushings, from 2 in. to ½ in., 230						
Fountain cocks					10	
Sill cocks					5	
Hose nipples					20	
T's	30	37	44		48	
Miscellaneous lot of cast iron T's and crosses						20
Caps	6	4	6		6	
Reducing couplings from 2. in. to ⅛ in., 47						
Stand-pipes, 53						
Clips, 64						
Lead connections from 1¼ to ¾ in., 13						
Hydrant cocks					4	

Stock in Shop and Yard.

3 hydrant-valves.
9 bolts for flush-hydrants.
4 stop and wastes for flush-hydrants.
5 lead kettles.
4 furnaces.
5 ladles.
3 bench vises.
4 drinking-fountains.
8 bands for capping main pipe.
3 meter boxes.
3 hydrant boxes.
4 gate boxes (small).
3 gate boxes (large).
12 cock boxes.
3 check valve boxes.
1 large frame and cover.
4 small frames and covers.
115 risers for boxes.
240 seals.
24 nuts.
4 axes.
5 sledge hammers.
10 gallons oil.
2 pair long leg boots.
1 cord wood.
25 feet ¾ inch hose.
100 feet 2-inch hose.
1 cask cement.
8 screw drivers.
6 saws.
1 square.
Plane, compasses, etc., for carpentering.
A lot of counters and ratchet movements for meters.
Lot of lumber.
11 spindles for 4-inch and 6-inch gates.
4 horses.
6 wagons.
7 harnesses.
2 sleighs.
1 double runner sled.
6 blankets.
2 buffalo robes.

3 oil-coverings for horses.
1 lathe with the usual chucks and tools.
1 water motor.
1 threading machine, with dies complete.
1 drilling machine, with drills complete.
2 tapping machines for supplies, with taps and drills.
4 hooks for tapping pipes.
2 2-inch taps and drills.
1 breast drill.
1 ratchet for tapping main pipe.
3 machines for tapping cement pipe.
1 washer cutter.
1 platform scale.
3 grindstones.
1 diaphragm pump.
1 hand pump.
8 thawing pumps.
200 feet thawing-out pipe.
1 barrel of clay.
1 hay-cutter.
1 large boom derrick.
3 small derricks.
1 breast derrick.
12 pipe wrenches.
2 nut wrenches.
5 monkey wrenches.
8 pipe cutters.
7 pipe tongs.
4 sets main pipe tools.
12 gate wrenches.
3 blow-off wrenches.
10 shut-off wrenches.
3 2-inch cock wrenches.
10 oil cans.
6 die plates, with dies complete.
4 tool chests.
2 hand carts.
3 chains.
68 shovels.
3 snow shovels.
50 picks.
17 trench rammers.
2 paving rammers.
8 pails.
5 iron bars.
36 wheelbarrows.
4 tamping bars.
1700 pounds lead.
180 pounds packing.
3 hydrant bodies.
1 set hydrant tools.
10 flush-hydrants.
5 post-hydrants.
6 garden-hydrants.
19 post-hydrant rods.
6 hammers.
1 plough.
1 dray.
17 wooden plugs.
82 blocks.
900 wedges.
1 3-inch Worthington meter.
1 2-inch " "
3 1-inch " "
5 $\frac{3}{4}$-inch " "
5 $\frac{5}{8}$-inch " "
3 $\frac{3}{4}$-inch Crown meter.
1 $\frac{1}{2}$-inch " "
1 $\frac{3}{4}$-inch Desper meter.
1 $\frac{5}{8}$-inch " "

REPORT

OF THE

ENGINEER OF THE PUMPING STATION.

PUMPING STATION, CAMBRIDGE WATER WORKS,
DEC. 1, 1885.

Hiram Nevons, Esq., Superintendent:—

SIR,—I would report the engines and boilers in good condition. During the past year the tubes have been cut out of boilers Nos. 1 and 2, the boilers thoroughly cleaned and examined, and the tubes pieced out and reset. The furnaces of all the boilers have been relined with fire-brick and new grate-bars fitted to them; also a part of a sheet in the furnace of boiler No. 2 has been cut out and replaced with a new sheet. The lagging around the steam cylinders of engine No. 2 has been thoroughly overhauled and oiled, and the cylinder heads and steam chests covered with Fossil meal composition. Engine No. 1 has had the stuffing-boxes and glands on steam and water cylinders bored out and rebushed. The auxiliary pumps at the pond, were started on the 17th of August, and continue in operation at this time. Following will be found a statement of the expenses at the pumping station, with the usual table.

E. C. BROOKS,

Engineer.

Statement.

418 tons Cumberland coal at $4.77	$1,993.86
$387\frac{200}{2240}$ " " at $4.13	1,598.68
Oil, waste, packing, etc.	225.80
Repairs on engines and boilers	992.56
Gas and gas-fitting	137.59
Repairs on buildings and care of grounds	210.68
Salaries	3,510.00
Total	$8,669.17

Engine Record, Pond Levels, and Rainfall.

Date.	Low-service Engines.						High-service Engine.						Total water pumped.	Daily average water pumped.	Total coal consumed.	Daily average coal consumed.	Av'age height of pond.	Rainfall.
	Total pumping time.		Daily average pumping time.		Total water pumped.	Daily average water pumped.	Total pumping time.		Daily average pumping time.		Total water pumped.	Daily average water pumped.						
	Hrs.	Min.	Hrs.	Min.	Gallons.	Gallons.	Hrs.	Min.	Hrs.	Min.	Gallons.	Gallons.	Gallons.	Gallons.	Lbs.	Lbs.	Feet.	Inch.
December, 1884..	373	35	12	03	83,573,400	2,695,916	373	35	12	03	5,782,810	186,542	89,356,210	2,882,453	149,500	4,823	9.17	4.60
January, 1885..	382	45	12	21	87,478,800	2,821,897	382	45	12	21	6,078,182	196,070	93,556,982	3,017,967	151,800	4,897	9.11	5.43
February, " ..	398	30	14	14	95,587,800	3,413,850	398	30	14	14	6,330,432	226,087	101,918,232	3,639,937	159,500	5,696	9.24	2.94
March, " ..	408	45	13	11	93,116,100	3,003,745	408	45	13	11	6,435,571	207,599	99,551,671	3,211,344	162,500	5,248	10.13	1.06
April, " ..	350	25	11	41	78,633,300	2,621,110	350	25	11	41	5,794,752	193,158	84,428,052	2,814,268	137,600	4,587	10.43	3.61
May, " ..	375	55	12	08	85,302,000	2,751,677	375	55	12	08	6,348,672	204,796	91,650,672	2,956,473	149,600	4,826	10.50	3.77
June, " ..	401	20	13	23	96,092,400	3,203,080	401	20	13	23	7,704,557	256,818	103,796,957	3,459,898	160,900	5,363	9.91	4.10
July, " ..	418	05	13	29	99,627,300	3,213,784	418	05	13	29	7,858,714	253,507	107,486,014	3,467,291	170,700	5,506	8.94	1.72
August, " ..	387	10	12	29	88,380,900	2,850,997	387	10	12	29	6,922,618	223,310	95,303,518	3,074,307	148,500	4,758	7.78	5.21
September, " ..	372	55	12	23	86,037,300	2,867,910	372	55	12	23	6,701,818	223,394	92,739,118	3,091,304	143,700	4,790	6.90	1.78
October, " ..	359	45	11	36	81,416,100	2,626,326	359	45	11	36	6,530,266	210,654	87,946,366	2,836,980	142,000	4,581	6.16	5.56
November, " ..	322	10	10	44	72,192,300	2,406,410	322	10	10	44	5,326,195	177,539	77,518,495	2,583,949	127,100	4,237	6.16	9.20
Total.....	4,551	20			1,047,437,700		4,551	20			77,814,587		1,125,252,287		1,803,400			48.98
Daily average..			12	28		2,869,693			12	28		213,191		3,082,884		4,941	8.70	

Stock on Hand Dec. 1, 1885.

600 tons Cumberland coal; 22 gallons cylinder oil; 30 gallons engine oil; 45 lbs. tallow; 90 lbs. cotton waste; 20 lbs. rubber packing; 30 lbs. usidurian packing; 5 lbs. asbestos packing; ½ bale flax packing; 24 9-inch rubber valves; 2 valve seats; 2 steam gauges; 10 lbs. Babbitt metal; 5 lbs. sheet brass; 15 lbs. soap; 1 barrel fire clay; 15 feet 5-inch rubber belting; ½ doz. files; 1½ lbs. emery; ½ doz. gauge glasses; 2 bbls. brimstone; 300 lbs. bolts and nuts; 10 lbs. nails; 1 pair plungers and rings for No. 2 engine; 1 lot iron pipe, assorted sizes; 1 lot pipe fittings, assorted sizes; 10 ft. 24-inch flange pipe; 8 ft. 6-inch flange pipe.

Tools, Furniture, and Instruments.

1 18-inch x 10 ft. engine lathe; 2 lathe chucks; 6 lathe dogs; 18 lathe tools; 1 grindstone; 13-inch x 9-inch engine; with shafting; belting, etc., 2 vises; 1 vise bench; 2 die plates and dies; 1 set pipe taps; 1 set hand taps; 2 pipe cutters; 14 pairs pipe tongs; 2 hand hammers; 1 copper hammer; 18 cold chisels; 8 files; 1 hand bellows; 5 screw wrenches; 3 Stillson wrenches; 22 fork wrenches; 27 socket wrenches; 6 gate wrenches; 1 hydrant wrench; 2 clamp screws; 1 sledge; 2 ratchets; 24 drills; 1 breast drill; 2 jackscrews; 6 steel bars; 2 soldering irons; 4 cylinder-head cranes; 12 eyebolts; 75 starting bolts; 1 starting key; 1 chain fall; 1 level; 1 gasket cutter; 2 ladles; 4 wooden horses; 1 oil cabinet; 1 set measures; 1 lot oil cans; 1 oil pump; 1 carpenter's bench; 4 planes; 3 hand-saws; 10 chisels; 7 gouges; 2 screw-drivers; 2 bit stocks; 13 bits; 3 augers; 1 draw-knife; 1 spokeshave; 2 axes; 1 square; 1 set fire tools; 1 coal car; 1 pair platform scales; 2 wheelbarrows; 10 scoop shovels; 1 tube brush; 1 forge; 1 anvil; 5 pairs tongs; 2 hand chisels; 1 lawn mower; 1 steel rake; 2 wooden rakes; 2 scythes; 4 forks; 1 weeder; 1 spade; 1 pick; 1 cast-iron roller; 6 ladders; 3 step-ladders; 200 ft. 2-inch hose and pipe; 100 ft. ¾-inch hose and pipe; 1 water-cooler; 6 fire pails; 8 water pails; 1 watering-pot; 1 window brush; 1 floor brush; 1 feather-duster; 1 dust-pan; 1 dust brush; 1 mop; 1 lot cocoa matting; 5 mats; 6 spittoons; 1 lot gas fixtures; 4 bracket lamps; 6 lanterns; 4 hand lamps; 1 desk; 2 tables; 2 clocks; 10 chairs; 1 barometer; 1 hygrophant; 1 thermometer; 2 rain gauges; 1 snow gauge.

Tools, Furniture, etc., at Engine House at Pond.

1 12x20-inch portable engine and boiler; 1 12x20-inch stationary engine; 1 40 H. P. locomotive boiler; 1 No. $2\frac{1}{2}$ Blake pump; 1 12-inch centrifugal pump; 2 12-inch Follansbee propeller pumps; 1 Hancock inspirator; 1 lot shafting; pulleys and belting; 1 hand force pump; 100 ft. 1-inch fire hose and pipe, 30 ft. 1-inch rubber hose; 10 ft. $\frac{3}{4}$-inch steam hose; 1 set fire tools; 2 oil cans; 2 squirt cans; 2 dip nets; 1 belt awl; 1 belt punch; 1 lot belt lacings; 2 bracket lamps; 2 lanterns; 1 large lantern; 2 chairs; 1 stove and pipe; 1 cot bed and bedding.

ANNUAL REPORT

OF THE

CHIEF ENGINEER OF THE FIRE DEPARTMENT.

CHIEF ENGINEER'S OFFICE, CITY HALL,
CAMBRIDGE, Mass., Dec. 21, 1885.

To His Honor the Mayor and the City Council:—

GENTLEMEN:—As required by Section 6 of the Ordinance relating to the Fire Department, I herewith present my annual report for the year ending November 30th, 1885.

Organization.

The organization of the department consists of a chief engineer, three assistant engineers, and officers and other members, including telegraph operators, to the number of ninety-seven men. Twenty-four are permanently employed, and seventy-three are call men.

Apparatus.

The apparatus used in connection with this department consists of six steam fire-engines, one of which is used as a relief engine, one chemical engine, five hose-carriages, four fuel-wagons, two hook-and-ladder carriages, one hose-pung, one fire-alarm wagon and pung, and a wagon for the use of the chief engineer, all of which are in generally good condition, with the exception of Hose-carriage number three.

Extensive repairs were made during the year on Engine No. 3. It was furnished with a complete new boiler, new wheels, painted, and other necessary alterations and repairs were made in order to put the engine in reliable condition.

A hose-wagon, to take the place of hose-carriage number three, has been ordered by the Committee on Fire Department, which has made a contract with the Abbott, Downing Co. of Concord, N. H., for the construction of the same. The wagon will be delivered about the first of January, 1886.

Hose.

During the year 1,000 feet of hose was purchased, and 250 feet condemned. The total amount now in serviceable condition, and in charge of the several engine companies, is 10,800 feet of cotton hose. That used in connection with the chemical engine is 350 feet of $\frac{3}{4}$-inch rubber, and 300 feet of $1\frac{1}{2}$-inch cotton hose.

Horses.

The horses of the department are in good condition, and with few exceptions are well suited to the work required of them. During the year two were purchased and two disposed of. The number of horses now in the service and required to do the work is twenty-three.

Fire-Alarm Telegraph.

The improved ten-circuit automatic repeater, switch-board and galvanometers, contracted for November 19th, 1884, by the Committee on the Fire Department, were received and placed in service February 24th, 1885. The four-circuit repeater in use up to that time was disposed of.

A bell and striker was purchased, and placed in the tower of Engine House No. 5, Inman Square; also two new fire-alarm boxes numbered 76, and 152, were located as follows: The former on Walnut Avenue, corner of Arlington Street, the latter at the junction of Main and Bow Streets.

Although the fire alarm has continued to do the work required of it, I would recommend that additional circuits be constructed the coming year, as the large amount of territory now covered by a single circuit may be deprived of the means of giving an alarm, in case of fire, by the derangement of the line.

I would also recommend that the several houses occupied by the fire department be connected by telephone.

Houses.

The houses of the department are in generally good condition, with the exception of hook-and-ladder house number two, which is in very poor condition, and should be replaced by a more substantial building.

The rooms directly over the engine-room of Engine House No. 1, and formerly used for other purposes, were fitted up as sleeping rooms for the permanent men. A circular iron stair-way, and sliding pole were put up to connect with these rooms. By this change the men can make quicker time in hitching up when called upon during the night. During the year a tower was constructed on Engine House No. 5, and arranged to accomodate a bell and bell-striker.

Hydrants.

In accordance with recommendations from this department, ten hydrants have been added during the year, making the total of hydrants for supplying water in case of fire 611.

Appropriation, Receipts, and Expenditures.

The appropriation for this department was $61,000, including estimated revenue of $100, from which $1,000 was transferred to incidental expenses. The expenditures of the department were $59,341.15, leaving a balance unexpended of $658.85. The revenue in excess of estimate was $189.25.

Fires and Alarms.

The accompanying statement will s how that the whole number of of fires and alarms attended by this department during the past year, within the limits of the city was 118, with a loss of property amounting to $94,417, which by a comparison with the previous year shows an increase of 43 alarms and an increased loss of property of $18,882. The losses, as near as could be ascertained, are covered by insurances amounting to $205,120.

The department has been aided at fires on two occasions during the year by the Boston department, and once by the Somerville department.

A portion of this department attended four fires out of the city.

Appointments and Discharges.

ENGINE CO. NO. 1. John K. Perkins, hoseman, was discharged at his own request April 16, and John S. McLean was appointed to fill the vacancy April 28.

ENGINE CO. NO. 2. William E. Cade, fireman of engine, was discharged at his own request April 7, and Smith A. Mowry was appointed to fill the vacancy April 21.

ENGINE CO. NO. 3. John Casey, hoseman, was discharged at his own request January 5, and Cornelius J. Donovan was appointed to fill the vacancy January 28. Cornelius J. Donovan, hoseman, was discharged at his own request October 31, and William H. Cairns was appointed to fill the vacancy November 25.

ENGINE CO. NO. 4. George W. Gilman, hoseman, was discharged at his own request October 31.

HOOK AND LADDER CO. NO. 2. Charles E. McMeniman, ladderman, was discharged at his own request December 31, and George H. Taylor was appointed to fill the vacancy same date.

Accidents.

On Thursday, January 29, at 11:30 o'clock P. M., Engine Co. No. 3 was called to extinguish a fire on the second floor of dwelling house No. 5 Vine Street. Upon their arrival and entering the room, William H. Barker, its occupant, was found sitting in a chair burned to death, the room having been set on fire by the explosion or breaking of a kerosene lamp, the fragments of which were found on the table.

Smith A. Mowry, while aiding the department in extinguishing a fire at No. 16 Ellery street, on the night of February 12, was severely cut on the arm by window glass.

While driving to a fire on the morning of August 24, Assistant Engineer William B. Cade, John G. Hicks, of Engine Co. No. 2, George P. Bannister, of Engine Co. No. 5, and James P. Ewell, of Hook and Ladder Co. No. 1, were thrown from the wagon in which they were riding, by running over a pile of bricks on Cambridge Street, the necessary signal of danger not having been displayed, and the two former received severe injuries to their limbs.

John L. Jones, Jr., of Engine Co. No. 1, while riding to a fire, on the rear step of the chemical engine, October 11, and while

assisting another member of the department to get on, brought his foot in contact with the wheel, thereby breaking his ankle.

Acknowledgments.

In closing this report, I desire to return my thanks to His Honor the Mayor, the City Council, and the Committee on Fire Department, for the cordial support of such measures for the good of the department as have been recommended.

I also desire to return thanks on behalf of the city, to the Boston and Somerville Fire Departments for assistance rendered at fires in this city during the year.

The Board of Engineers, the officers and members of the several companies, will also accept my acknowledgments for their faithful performance of duty.

Respectfully submitted,

THOMAS J. CASEY,
Chief Engineer

APPENDIX.

Joint Standing Committee on Fire Department.

ALDERMEN . . . . . Cogan and Henderson.
COUNCILMEN . . . . . Doyle, Coolidge and Milligan.

Board of Engineers.

Name.	Residence.	Rank.	Age.
Thomas J. Casey	173 Cambridge Street	Chief Engin'r	52
Nathaniel W. Bunker . . .	6 Beech Street . .	1st Assistant.	42
Charles W. Brackett. . . .	133 Mt. Auburn St.	2d Assistant.	49
William B. Cade	27 Park Street . .	3d Assistant.	51
Nathaniel W. Bunker . . .		Secretary .	

Engine Company No. 1.

House, Brattle Square.

Name.	Rank.	Age.	No. of Badge.
William H. Emery	Foreman	52	23
John H. Brown	Assistant Foreman .	34	24
Edwin E. Priest	Engineer	48	1
James Jefferson, ...	Fireman	32	25
Hiram W. Hooker	Driver of engine . .	47	2
Charles R. Hooker	Driver of hose-carriage	41	3
John L. Jones, Jr., ...	Hoseman	34	26
Daniel E. Shea	"	29	28
William A. Carlin	"	34	29
James McLean	"	25	30
Robert L. Williams	"	36	31
John S. McLean	"	26	27

Engine Company No. 2.

House, Main Street, near Winsor.

Name.	Rank.	Age.	No. of Badge.
James Cunningham	Foreman	43	32
Arthur C. Day	Assistant Foreman	48	33
Thomas Wiseman	Engineer	41	4
Smith A. Mowry	Fireman	22	34
John H. Walker,	Driver of engine	56	5
Albert F. Sawyer	Driver of hose-carriage	42	6
Benjamin D. Foss	Hoseman	49	35
John McCarthy	"	35	36
John Haley	"	31	37
Charles H. Chapman	"	32	38
Charles E. Snow	"	44	39
John G. Hicks	"	38	40

Engine Company, No. 3.

House, Fourth Street, near Cambridge.

Name.	Rank.	Age.	No. of Badge.
William F. Newman	Foreman	39	43
Edwin Winward	Assistant Foreman	41	44
Hiram Blood	Engineer	53	7
Elliot E. Alley	Fireman	49	45
Peter F. McSorley	Driver of engine	26	8
Lorenzo H. Dale	Driver of hose-carriage	43	9
Walter Baker	Hoseman	31	42
Timothy J. Mahoney	"	37	46
William H Murray	"	34	48
Louis J. Stanger	"	31	47
John S. Dooris	"	40	49
William H. Cairns	"	22	41

Engine Company No. 4.

House, North Avenue, near Russell Street.

Name.	Rank.	Age.	No. of Badge.
Edgar H. Locke	Foreman	38	53
William J. Hanna	Assistant Foreman	39	52
John E. Ricker	Engineer	41	10
Benjamin Young	Fireman	41	57
George E. Muzzey	Driver of engine	43	11
Sylvanus G. Griffin	Driver of hose-carriage	38	12
John H. Griffin	Hoseman	32	55
Arthur C. Griffin	"	35	58
Josiah P. Parsons	"	37	56
Edward A. Hurd	"	35	51
George F. Tibbetts	"	45	50

Engine Company No. 5.

House, Inman Square.

Name.	Rank.	Age.	No. of Badge.
Francis P. Scanlan	Foreman	39	59
Conrad D. Kinnear	Assistant Foreman	46	60
Charles E. Conner	Engineer	35	13
George W. McIntire	Fireman	30	61
Joseph P. Cartwright	Driver of engine	49	14
Francis P. Carr	Driver of hose-carriage	41	15
John Fitzgerald	Hoseman	38	62
Frank C. Mullett	"	33	63
William T. King	"	29	64
Hugh T. Barker	"	34	66
James F. Glynn	"	35	65
George P. Bannister	"	25	67

Chemical Engine Company No. 1.

House, Western Avenue.

Name.	Rank.	Age.	No. of Badge.
Louis C. Clark	Engineman	41	17
William H. Foss	Driver	46	18

Relief Engineer.

Name.	Rank.	Age.	No. of Badge.
William H. Lydston	Engineer	38	16

Hook-and-Ladder Company No. 1.

House, Brattle Square.

Name.	Rank.	Age.	No. of Badge.
Charles Emerson	Foreman	40	69
John T. Mahaffy	Assistant Foreman	40	72
Albert S. Benson	Driver	41	19
James P. Ewell	Ladderman	49	75
Charles H. Waite	"	39	73
William Parks	"	41	77
Charles A. Sharon	"	36	76
Joseph B. Farmer	"	47	74
Warren H. Dow	"	35	71
William R. Mitchell	"	33	78
John A. Bartlett	"	52	79
John A. McDermott	"	35	80
James H. Furfey	"	28	68
Thomas H. McCoy	"	34	70

Hook-and-Ladder Company No. 2.

House, Cambridge Street, corner Portland.

Name.	Rank.	Age.	No. of Badge.
Thomas L. Hunter	Foreman	45	93
James F. Dalton	Assistant Foreman	48	81
Jeremiah R. Hobbs	Driver	38	20
Orville W. Van Duzee	Ladderman	39	82
Joseph E. Chick	"	35	87
William Haley	"	37	86
Elbridge L. Wheeler	"	41	91
Timothy Ryan	"	39	85
John Gaughan	"	43	92
Albert Smith	"	31	90
Thomas Mimnaugh	"	32	83
Andrew Burk	"	42	89
John B. McGuire	"	26	84
George H. Taylor	"	53	88

Fire-Alarm Telegraph.

Battery Room, Brattle Square Building.

Name.	Rank.	Age.
George J. Blaisdell	Assistant Superintendent	41
Arthur W. Daniels	Telegraph Operator	32
David J. Campbell	Telegraph Operator	38

FIRES AND ALARMS

From Dec. 1, 1885, to Dec. 1, 1885.

DECEMBER.

Friday, Dec. 5, 8.06 p. m. Box 53.

De Wolf Street. Burning of an old lighter owned by George Faulkner. Loss, trifling. Cause, incendiary.

Monday, Dec. 8, 7.49 a. m. Box 25.

No. 543 Main Street. Owned by Samuel James. Occupied by Charles James as grocery. No loss. Cause, paper in hot-air pipe taking fire.

Monday, Dec. 8, 8.39 p. m. Box 79.

No. 215 Mt. Auburn Street (rear). Owned by Patrick Conroy. Occupied by several families as dwellings. Cause, soot in chimney taking fire.

Thursday, Dec. 18, 5.24 a. m. Box 9.

No. 128 Bridge Street. Owned by Jeremiah Carew. Occupied by Daniel Leahy as dwelling. Loss, trifling. Cause, matches under sink taking fire.

Friday, Dec. 19, 8.50–8.55 a. m. Box 69.

No. 232 North Avenue (rear). Owned and occupied by Henderson Bros. as wheelwright shop, shed and store-house. Loss, $2,815. Insurance, $5,500. No. 38 Orchard Street. Owned and occupied by C. W. Stetson as stable. Loss, $475. Insurance, $1,500. No. 27 Hadley Street. Owned by Daniel Fobes. Loss, $20. Insurance, $1,500. Occupied by E. G. Hall as dwelling. Originated in wheelwright shop. Cause, over-heated stove.

Friday, Dec. 19, 12.16 p. m. Box 17.

No. 91 Harvard Street. Occupied as dwellings. Cause, steam mistaken for fire.

Tuesday, Dec. 23, 7.48 a. m. Still.

Boston, Brighton District. Engine No. 1 responded.

Wednesday, Dec. 24, 6.28 a. m. Box 36.

No. 561 Main Street. Owned by Lamson heirs. Occupied by G. C. W. Fuller as clothing store. No loss. Cause, hot ashes in wooden box.

Friday, Dec. 26, 3.39–3.55 p. m. Box 9.

No. 54 Bridge Street. Owned and occupied by Shaw, Applin & Co. as furniture manufactory. Loss, $43,746. Insurance, $31,000. No. 50 Bridge Street. Owned by Charles Linehan. Loss, $2,500. No insurance. Occupied by Daniel Callahan as dwelling and liquor store. Loss, $500. No insurance. Originated in furniture factory. Cause, unknown.

Tuesday, Dec. 30, 4.46 p. m. Box 4.

Gore Street. Owned and occupied by J. P. Squire & Co. as cooper-shop. Cause, explosion of empty naphtha barrel.

JANUARY.

Saturday, Jan. 3, 5.19 a. m. Box 54.

Frisbie Place. Owned by Harvard College. Loss, $50. Insurance, $2,000. Occupied by C. W. Sever as dwelling. Originated in cellar. Cause, unknown.

SATURDAY, Jan. 3, 11.15 A. M. Still.

No. 2 Appian Way. Owned by A. J. Jones. Occupied by several families. No loss. Cause, children playing with matches.

SATURDAY, Jan. 3, 6.01 P. M. Box 26.

Nos. 173 to 179 Main Street. Owned by Howe estate. Loss, $270. Insurance, $600. Occupied by Daniel Bedell as grocery. Loss, $30. No insurance. Occupied by W. H. Leach, carpenter. Loss, $135. Insurance $200. Occupied by J. E. Hall, painter. Loss, $25. No insurance. Occupied by Hatch & Russell as furniture store. Loss, $40. Insurance, $1,000. Originated in grocery store. Cause, unknown.

SUNDAY, Jan. 4, 11.05 A. M. Still.

Boston, Brighton District. Engine No. 1 rendered assistance.

MONDAY, Jan. 5, 11.32 A. M. Box 64.

Garden Street. Burning of rubbish in Botanic Garden.

WEDNESDAY, Jan. 14, 9.44 A. M. Box 72.

Dudley Street. Owned by Albert Thayer. Loss, $104. Insurance, $800. Occupied by Nim Bours as dwelling. Originated on second floor, near stove. Cause, unknown.

WEDNESDAY, Jan. 14, 7.37 P. M. Box 14.

Ninth Street. Boston & Albany railroad Freight Yard. Lumber on car. Owned by Geo. G. Page Box Co. Loss, $50. No insurance. Cause, incendiary.

WEDNESDAY, Jan. 14, 10.16 P. M. Still.

No. 24 Mill Street. Privy. Owned by Hayes estate. Loss, trifling. Cause, incendiary.

SATURDAY, Jan. 17, 9.16 P. M. Box 45.

No. 169 Franklin Street. Owned by G. J. Hobbs. Occupied by Charles Palmer as dwelling. Loss, trifling. Cause, breaking of kerosene lamp.

MONDAY, Jan. 19, 6.33 A. M. Box 12.

North Street. Owned by N. E. Glass Co. Occupied by W. L. Libbey & Son as glass cutters. No loss. Cause, thawing-out water pipe.

TUESDAY, Jan. 20, 5.34 P. M. Box 26.

School Street. False alarm. Cause, drying plaster in new building.

WEDNESDAY, Jan. 21, 3.22 A. M. Box 72.

No. 25 Reed Street. Owned and occupied by R. W Davis as shed. Loss, $30. No insurance. Cause, incendiary.

THURSDAY, Jan. 22, 12.27 P. M. Box 23.

No. 109 Pearl Street. Owned and occupied by J. R. Worthen as dwelling. Loss, $146. Insurance, $1,350. Originated in bed-room. Cause, over-heated stove.

THURSDAY, Jan. 22, 6.35 P. M. Box 59.

No. 12 Quincy Street. Owned and occupied by Mrs. A. L. Moering as dwelling. Cause, soot in chimney taking fire.

FRIDAY, Jan. 23, 9.13 P. M. Box 32.

No. 137 Webster Avenue. Owned by Joseph Heffernan. Loss, $200. Insurance, $200. Occupied by S. H. Harrington as stable. Loss, $200. No insurance. Cause, unknown.

MONDAY, Jan. 26, 12.26 P. M. Box 92.

Woodlawn Avenue. Owned and occupied by Michael Kelley as dwelling. Loss, $18. Insurance, $3,000. Originated in bed-room. Cause, unknown.

THURSDAY, Jan. 29, 11.30 P. M. Still.

No. 5 Vine Street. Owned by Hugh Campbell. Loss $23. Insurance, $1,000. Occupied by W. H. Barker as dwelling. Supposed cause, the upsetting and breaking of kerosene lamp.

FEBRUARY.

MONDAY, Feb. 9, 10.40 A. M. Box 56.

No. 29 Kirkland Street. Owned and oeeupied by Mrs. H. L. Eustis as dwelling. Loss $75. Insuranee, $15,750. Originated near stove in bed-room. Cause unknown.

THURSDAY, Feb. 12, 7.29 P. M. Box 52.

No. 16 Ellery Street. Owned by C. E. Haley. Loss, $300. Insurance, $2,500. Oceupied by W. F. Niehols as dwelling. Loss, $150. Insuranee, $1,500. Originated in bath-room. Cause, gas-jet setting fire to elothes.

SATURDAY, Feb. 14, 5.34 P. M. Box 9.

First Street. Burning gas setting fire to wood-work in elub-stable. Alarm needless.

SUNDAY, Feb. 15, 2.40 P. M. Still.

No. 36 Quincy Street. Owned and oeeupied by Mrs. E. C. Agassiz as dwelling. Cause, soot in ehimney taking fire.

FRIDAY, Feb. 20, 9.10 A. M. Box 78.

Garden Court. Owned and occupied by Joseph Fenniek as barn and shed. Loss, $225. No insuranee. Cause, unknown.

FRIDAY, Feb. 20, 10.45 A. M. Box 69.

No. 32 Orchard Street. Owned by D. E. Brown heirs. Loss, $89. Insurance, $1,000. Oeeupied by T. H. Dolhenty as dwelling. Loss, $100. Insuranee, $300. Originated in bedroom. Cause, unknown.

SATURDAY, Feb. 21, 8.23 P. M. Box 9.

Bridge Street. False alarm. Cause, smoke mistaken for fire.

SUNDAY, Feb. 22, 11.30, P. M. Still.

No. 19 Inman Street. Owned by James Luke, Jr. Loss, $146. Insuranee, $4,500. Occupied by C. W. Moulton as dwelling. Originated in kitchen, Cause unknown.

TUESDAY, Feb. 24, 9.28 P. M. Box 43.

No. 39 Banks Street. Owned and oeeupied by John Brassil as wagon-shed. Loss trifling. Cause, ineendiary.

WEDNESDAY, Feb. 25, 3.49 P. M. Box 53.

No. 5 Dyke Street. Owned and oecupied by Miehael Shea as stable. Loss, $12. Insuranee $300. Cause, ineendiary.

MARCH.

SUNDAY, Mareh 1, 10.20 A. M. Box 27.

No. 57 Portland Street. Owned by John McFarland. Loss, $12. Insurance, $150 Oeeupied by T. H. Warren as stable. Cause, unknown.

SUNDAY, Mareh 1, 10.36 A. M. Box 59.

No. 6 Brattle Street. Owned by Charles Moore. Loss, $146. Insurance, $10,000. Occupied by J. H. Wyeth & Co. as groeery. Loss, $902. Insuranee, $2,000. Originated on shelf where mateles were kept. Supposed cause, rats.

TUESDAY, Mareh 10, 11.08 P. M. Box 13.

No. 96 Gore Street. Owned by James O'Conner. Loss, $109. Insuranee, $2,400. Occupied by Mrs. Hanna Callahan as dwelling. Cause, explosion of kerosene lamp.

MONDAY, March 16, 10.27 P. M. Box 61.

No. 83 Boylston Street. Owned by G. M. Rogers. Loss, $175. Insurance, $300. Occupied by D. W. Power as carpenter-shop. Loss, $300. Insuranee $400. Supposed cause incendiary.

TUESDAY, March 17, 12.45 A. M. Box 15.

No. 65 Vine Street. Owned by Hugh Doherty. Loss, $69. Insurance, $3,500. Occupied by J. J. Hayes as dwelling. Loss, $40. No insurance. Originated in a lounge. Cause, pipe-smoking.

WEDNESDAY, March 18, 4.30 P. M. Still.

No. 71 School Street. Owned by Mrs. Jane Sceva. Loss, $30. Insurance $1,500. Occupied by Philip Cartwright as dwelling. Originated in closet. Cause, rats and matches.

THURSDAY, March 19, 9.54 A. M. Box 79.

No. 120 Brattle Street. Owned by C. E. Dyer. Loss, $288. Insurance $8,000. Occupied by M. L. Newman as dwelling. Loss, $75. No insurance. Cause, sparks from chimney.

TUESDAY, March 24, 8.57 A. M. Box 9.

No. 56 Cambridge Street. Owned by S. B. Buck. Loss, $170. Insurance, $4,000. Occupied by Denis & Grenier as grocery. Loss, $193. Insurance, $750. Cause, upsetting of stove.

WEDNESDAY, March 25, 2.10 A. M. Box 23.

No. 34 Brookline Street. Owned by D. A. Buckley. Loss, $50. No insurance. Occupied by John McLelland as dwelling. Loss, $279. Insurance, $500. Originated near stove. Cause unknown.

THURSDAY, March 26, 4.19 A. M. Box 38.

No. 111 Magazine Street. Owned and occupied by John Mahady as stable. Loss, $260. Insurance, $250. Cause, unknown.

THURSDAY, March 26, 10.21 P. M. Box 9.

No. 62 Cambridge Street. Owned and occupied by Enoch Munroe, wheelwright. Loss, $253. Insurance, $500. Occupied by Edmonds & Hayden, carpenters. Loss, $143. Insurance, $400. Originated in carpenter shop. Cause, oiled rags.

THURSDAY, March 26, 10:35 P. M. Box 12.

North Street. False alarm. Cause, smoke mistaken for fire.

TUESDAY, March 31, 1.49 P. M. Box 16.

No. 168 Main Street. Owned by Cambridgeport Savings Bank. Occupied by Cambridge Coal Co. as coal-shed. Loss, trifling. Cause, sparks from hoisting-engine.

APRIL.

WEDNESDAY, April 1, 4.41 A. M. Box 8.

No. 38 Third Street. Owned by F. H. Rindge. Loss, $72. Insurance, $1,500. Occupied by G. H. Sherman as restaurant. Loss, $43. Insurance, $1,000. Cause, unknown.

SATURDAY, April 4, 11.23 P. M. Box 48.

No. 11 Murdock Street. Unoccupied dwelling owned by William Hazel. Loss, $125. Insurance, $1,000. Supposed cause, incendiary.

MONDAY, April 6, 1.30 P. M. Still.

Blanche Street. Owned and occupied by Brown, Murphy & Co. as window shade manufactory. Loss, trifling. Cause, wood-work near boiler taking fire.

SATURDAY, April 11, 10.28 A. M. Box 116.

No. 135 Broadway. Owned by E. B. Phillips. Occupied by Standard Turning works as dry house. Loss trifling. Originated in roof. Cause, over-heated smoke-stack.

MONDAY, April 13, 8.35 A. M. Box 32.

No. 377 Cambridge Street. Owned by Cornelius White. Occupied by J. H. McCabe as liquor store. No loss. Cause, defective stove pipe.

THURSDAY, April 16, 9.34 P. M. Box 43.

No. 39 Cowperthwaite Street (rear). Unoccupied dwelling owned by Mrs. Ann Lynch. Loss, $150. Insurance, $500. Cause, incendiary.

MONDAY, April 20, 10.49 P. M. Box 9.

No. 12 Gore Street. Owned by James Duff. Occupied by James Duff & Son, carriage-spring manufacturers. Loss trifling. Cause, sparks from forge.

MONDAY, April 27, 6.50 P. M. Box 73.

No. 106 Spruce Street. Owned by Martin Murphy. Occupied by Paul Levois as dwelling. No loss. Originated in cellar. Cause, unknown.

WEDNESDAY, April 29, 7.08 A. M. Box 8.

No. 5 Vine Street. Owned by Hugh Campbell. Occupied by several families as dwellings. No loss. Originated in cellar. Cause unknown.

MAY.

FRIDAY, May 1, 7.36 P. M. Box 27.

Moore Street. Owned by James Mellen. Loss, $100. No insurance. Occupied by Michael McLaughlin as stable. Loss, $235. Insurance, $700.

No. 79 Hastings Street. Owned by Bernard Casey. Loss, $65. Insurance, $1,500. Occupied by several families as dwellings. Originated in stable. Cause unknown.

SATURDAY, May 2, 5.46 A. M. Box 28.

No. 5 Bristol Street. Owned by W. S. Crocker. Occupied by L. E. Murphy as dwelling. Loss, $40. No insurance. Cause, clothes hanging near stove taking fire.

MONDAY, May 4, 9.15 A. M. Still.

No. 33 Dunster Street. Owned by David Campbell. Loss, $15. Insurance, $800. Occupied by several families as dwellings. Originated in cellar. Cause, lighted match dropped in shavings.

TUESDAY, May 5, 4.19 P. M. Box 26.

State Street. Owned by M. E. Rideout. Occupied by several persons as wood workers. Loss trifling. Originated on roof. Cause, sparks from chimney.

THURSDAY, May 7, 12.44 A. M. Box 91.

No. 53 Reed Street. Owned and occupied by James Henderson as dwelling. Loss, $375 No insurance. Originated in shed. Cause unknown.

THURSDAY. May 7, 7.02 A. M. Box 9.

No. 6 Short Street. Soot in chimney taking fire. Alarm needless.

FRIDAY, May 29, 7.56 P. M. Box 53.

Dyke Street. Owned by Sargent heirs. Occupied by Valentine & Salls as tool shed. Loss trifling. Cause, ncendiary.

JUNE

TUESDAY, June 2, 7.10 P. M. Box 31.

No. 33 Porter Street. Soot in chimney taking fire. Alarm needless.

WEDNESDAY, June 3, 3.07 P. M. Box 12.

North Street. Owned by New England Glass Co. Occupied by W. L. Libbey & Son as glass manufactory. Loss trifling. Cause, ignition of oil barrel.

FRIDAY, June 12, 10.13–10.21 A. M. Box 25.

Pacific Street. Owned by J. G. Russell, formerly used as barrel manufactory. Loss, $16,405. Insurance, $7,000. Occupied by Goepper Brothers for storage. Loss, $1,537. Insurance, $8,000. Cause, incendiary.

FRIDAY, June 12, 10.45 A. M. Box 29.

No. 6 Cherry Street. Owned by James Warnock. Occupied by several families as dwellings. Loss trifling. Originated on roof. Cause, sparks from burning building.

SUNDAY, June 14, 11.46 A. M. Box 8.

No. 7 Vine Street. Owned by Hugh Campbell. Occupied by several families as dwellings. No loss. Cause, soot in chimney taking fire.

WEDNESDAY, June 17, 11.45 A. M. Still.

Eliot Street. Owned by Chapman estate. Occupied as dwelling. Loss trifling. Originated on roof. Cause, sparks from chimney.

WEDNESDAY, June 17, 9.02 P. M. Box 43.

No. 27 Grant Street. Owned and occupied by T. C. Eagleson as dwelling. Loss, $10. Insuranec, $1,000. Originated in a elothes eloset. Cause, fire-erackers.

WEDNESDAY, June 17, 9.51 P. M. Box 41.

No. 11 Somerset Street. Owned and oecupied by John Riley as stable. Loss, $275. Insurance, $200. No. 13 Somerset Street. Owned and occupied by Mary Riley as dwelling. Loss, $15. Insurance, $600. No. 19 Fairmont Avenue. Owned by Catherine Wilson. Loss, $25. Insurance, $2,000. Oecupied by F. E. Leland as dwelling. Originated in stable. Cause, unknown.

THURSDAY, June 18, 3.46 P. M. Box 24.

Nos. 16–18 Lopez Street. Owned by Michael Carr. Loss, $300. Insurance, $2,000. Occupied by several families as dwellings. Loss, $75. No insurance. Originated in attic. Cause, children playing with matehes.

THURSDAY, June 18, 5.17 P. M. Box 91.

No. 25 Harvey Street (rear). Owned by Mrs. William O'Brien. Unoccupied stable Alarm needless. Cause, ehildren and matehes.

THURSDAY, June 18, 10.21 P. M. Box 61.

Boylston Street. Owned by J. G. Blunt estate. Occupied by A. J. Jones for storage of wagons. Loss trifling. Cause, ineendiary.

FRIDAY, June 19, 1.06 P. M. Box 53.

No. 3 Dyke Street. Owned by Thomas Stearns. Occupied by S. E. Tasco as stable. Loss trifling. Cause, incendiary.

MONDAY, June 29, 7.18 P. M. Box 8.

No. 94 Third Street. Owned by J. S. Buek. Loss, $5. Insuranee, $300. Occupied by Ellen McCue as dwelling. Originated in closet. Cause unknown.

JULY.

WEDNESDAY, July 1, 4.21 A. M. Box 9.

Bridge Street. Owned by Binney heirs. Occupied by J. J. McDonald & Co., blacksmiths. Loss trifling. Cause, hot ashes setting fire to floor.

SATURDAY, July 4, 1.46 A. M. Box 71.

North Avenue. False alarm.

SATURDAY. July 4, 5.10 P. M. Box 91.

Harvey Street. Owned by A. R. Holden. Unoccupied building, formerly used as pottery. Loss trifling. Cause, incendiary.

SATURDAY, July 4, 9.33 P. M. Box 25.

No. 35 Green Street. Owned by A. P. Clark. Loss, $12. Insurance, $1,500. Occupied by James Bailey as dwelling. Originated on roof. Cause, fire-works.

SATURDAY, July 4, 11.20 P. M. Still.

No. 99 Green Street (rear). Owned and occupied by E. A. Green as dwelling. Loss, $20. Insurance $1,500. Cause, fire-crackers.

SUNDAY, July 5, 1.46 A. M. Box 16.

No. 150 Broadway (rear). Owned by Thayer estate. Occupied by L. L. Harris as drug-mill. Loss, trifling. Cause, fire-works.

WEDNESDAY, July 8, 10.45 P. M. Still.

Boylston Street. Owned by J. G. Blunt estate. Occupied by A. J. Jones for storage of wagons. No loss. Cause, incendiary.

FRIDAY, July 17, 12.45 P. M. Still.

Fire in Somerville. Engine Co. No. 5 responded.

SATURDAY, July 18, 11.15 P. M. Still.

No. 379 Main Street. Owned by Howe estate. Occupied by Hatch & Russell as furniture store. Loss trifling. Originated in cellar. Cause unknown.

SUNDAY, July 19, 11.45 P. M. Box 31.

No. 33 Harding Street. Owned by John Canney. Occupied as dwelling. Cause, soot in chimney taking fire. Alarm needless.

WEDNESDAY, July 22, 2.55 A. M. Box 61.

No. 64 Brattle Street (rear). Owned by S. C. Richardson. Loss, $200. No insurance Unoccupied stable. Cause, incendiary.

WEDNESDAY, July 22, 10.40 P. M. Box 53.

No. 23 De Wolf Street, Owned by Thomas Stearns. Loss, $200. No insurance. Occupied by Zebar Hayden, carpenter. Loss, $400. No insurance. No. 25 De Wolf Street, Owned and occupied by Alexander Ballam as dwelling. Loss, $50. No insurance. No. 21. Owned and occupied by E. F. Young, Jr., as stable. Loss, $188. Insurance $1,400. Originated in carpenter shop. Cause, incendiary.

AUGUST.

MONDAY, Aug. 3, 7.23 P. M. Box 35.

No. 31-33 Elm Street. Owned and occupied by Thurston & Hall as cracker bakery. Loss, $300. Insurance, $15,000. Originated in barrel of hot crackers.

SATURDAY, Aug. 8, 7 P. M. Still.

No. 486 Cambridge Street. Owned by John Cahill. Loss, $15. Insurance, $2,000. Occupied by A. F. Hogan as dwelling. Loss, $20. Insurance, $700. Cause, explosion of kerosene lamp.

SUNDAY, Aug. 9, 10.12 A. M. Box 9.

No. 83 Bridge Street. Owned by Charles Linehan. Loss, $25. Insurance, $1,000. Occupied by J. H. McCarthy as dwelling. Originated on roof. Cause, sparks from chimney.

THURSDAY, Aug. 13, 4.15 P. M. Box 31.

No. 45 Willow Street. Owned by Philip McDonald. Occupied as dwelling. Cause, soot in chimney taking fire. Alarm needless.

FRIDAY, Aug. 14, 12.17 P. M. Box 4.

Gore Street. Owned and occupied by J. P. Squire & Co. as smoke-house. Loss, $70. Insurance, $70. Cause, sparks from fire-place.

MONDAY, Aug. 17, 12.28 P. M. Box 42.

Sands Street. Owned by Mrs. Sarah Bancroft. Loss, $3,500. No insurance. Occupied by Brown & Higgins as planing and moulding mill. Loss, $3,200. Insurance, $500. Occupied by N. N. Stickney for lumber. Loss, $50. No insurance. Occupied by Worcester Bros. for lumber. Loss, $100. No insurance. Occupied by Henderson Bros. for lumber. Loss, $125. No insurance. Occupied by C. E. Dearborn for lumber. Loss, $50. No insurance. Occupied by G. W. Higgins, stair-builder. Loss, $150. No insurance. Originated in boiler-room. Cause unknown.

MONDAY, Aug. 24, 3.30 A. M. Box 9.

No. 56 Cambridge Street. Owned by S. B. Buck. Loss, $286. Insurance, $4,000. Occupied by Adolph Denis, grocer. Loss, $97. Insurance, $400. Occupied by several families as tenements. Originated in grocery store. Cause unknown.

TUESDAY, Aug. 25, 7.29 P. M. Box 26.

State Street. Owned by D. C. Smart. Loss, $75. Insurance, $1,500. Occupied by Lambert Furniture Co. Loss, $2,100. Insurance, $4,000. Occupied by H. A. Scranton for wood turner. Loss, $66. Insurance $400. Occupied by L. Bullock & Co., cabinet makers. Loss, $45. Insurance $800. Cause unknown.

SATURDAY, Aug. 29, 10.30 A. M. Still.

Norfolk Street. Owned and occupied by City of Cambridge as blacksmith-shop. Loss trifling. Cause, sparks from chimney setting fire to roof.

SEPTEMBER.

SATURDAY, Sept. 5, 10.19 P. M. Box 61.

No. 71 Boylston Street. Owned by Cambridge Railroad Co. Occupied as dwelling. No loss. Cause, burning rags. Alarm needless.

WEDNESDAY, Sept. 9, 9.34 P. M. Box 43.

No. 3 Dyke Street. Owned by Thomas Stearns. Loss, $35. Insurance, $500. Occupied by S. E. Tasco as stable. Cause, incendiary.

THURSDAY, Sept. 10, 8.16 P. M. Box 61.

No. 73 Boylston Street. Owned by Cambridge Railroad Co. Loss, $326. Insurance, $600. Unoccupied. Cause, incendiary.

SUNDAY, Sept. 13, 12.06 A. M. Box 53.

Nos. 32–34 Mill Street. Owned by J. G. Gooch. Loss, $673. Insurance, $1,200. Occupied by A. W. Stearns, carpenter. Loss, $214. Insurance, $300. Occupied by James Reed as fishing-rod manufactory. Loss, $1,200. No insurance. Occupied by W. H. Davy for boat builder. Loss, $30. No insurance. Occupied by E. N. Coolbroth, cabinet-maker. Loss, $25. No insurance. Originated in carpenter-shop. Cause, incendiary.

SUNDAY, Sept. 13, 3.49 P. M. Box 42.

No. 1 Sands Street. Owned by E. W. Locke. Occupied by Isaac McArthur as dwelling. Cause, pot of meat on stove taking fire.

FRIDAY, Sept. 18, 6.56 P. M. Box 25.

No. 445 Main Street. Owned by W. H. Wentworth. Occupied as stores and dwellings. Loss trifling. Originated on roof. Cause, fire-works.

WEDNESDAY, Sept. 23, 5 P. M. Still.

Fire in Boston, Brighton District. Engine No. 1 responded.

WEDNESDAY, Sept. 23, 9.24 P. M. Box 9.

No. 69 Cambridge Street. Owned by J. L. Bailey. Occupied by Edward Pollard for glass etching. No loss. Cause, wood near furnace taking fire.

OCTOBER.

SUNDAY, Oct. 11, 6.19 P. M. Box 8.

No. 93 Third Street. Owned by Hugh Campbell. Loss, $8. Insurance, $1,000. Occupied by Daniel Crowley as dwelling. Originated in bed-room. Cause, breaking of kerosene lamp.

FRIDAY, Oct. 23, 4.25–4.31 A. M. Box 16.

No. 113 Broadway. Owned and occupied by Leander Greely, carpenter and builder. Loss, $4,365. Insurance, $20,000. Occupied by G. W. Seaverns, piano-action manufacturer. Loss, $300. Insurance, $3,000. Originated in cellar among shavings and sawdust. Cause, unknown.

SATURDAY, Oct. 24, 9.45 A. M. Box 87.

Lake View Avenue. Owned and occupied by Charles Butcher as wood-polish manufactory. Loss trifling. Cause, boiling over of polish.

THURSDAY, Oct. 29, 4 P. M. Still.

Osborn Street. Owned by Allen & Endicott. Loss, trifling. Occupied as machine shop. Originated in the roof. Cause, over-heated chimney.

SATURDAY, Oct. 31, 7.27 P. M. Box 91.

No. 25 Harvey Street. Unoccupied stable owned by Mrs. William O'Brien. Loss, trifling. Cause, incendiary.

NOVEMBER.

TUESDAY, Nov. 10, 11.35 P. M. Box 27.

No. 244 Broadway. Owned by H. M. Phinney. Loss, $12. Insurance, $4,000. Occupied by E. L. Dodge as stove store. Originated in barrel of rubbish. Cause unknown.

TUESDAY, Nov. 17, 4.50 A. M. Still.

Blackstone Street. Owned and occupied by H. O. Houghton & Co., printers. Cause, accidental automatic alarm.

WEDNESDAY, Nov. 18, 10.54 P. M. Still.

No. 6 North Avenue. Owned and occupied by W. H. Eveleth as dwelling. Loss, $50. Insurance, $1,500. Originated in attic chamber. Cause, lighted lamp setting fire to roof.

SATURDAY, Nov. 21, 8.20 P. M. Box 68.

No. 7 Walnut Avenue. Owned and occupied by Nathaniel Carr as dwelling. Loss trifling. Cause, floor timbers near fire-place taking fire.

SATURDAY, Nov. 28, 6.40 A. M. Box 13.

No. 110 Cambridge Street. Owned by T. J. Dale. Occupied by George Kellenberger as provision store. Loss trifling. Originated in office. Caused by a cat upsetting and breaking a lighted kerosene lamp.

HYDRANTS.

Ward One.

Appleton Street, corner Highland.
Ash Street, corner Acacia.
Baldwin Street, corner Emmons Place.
Banks Street, corner Flagg.
Banks Street, corner Cowperthwaite.
Banks Street, corner Grant.
Bow Street, corner Linden (post).
Boylston Street, corner Winthrop (post).
Boylston Street, corner Eliot (post).
Brattle Street, opposite the estates of Messrs. Longfellow and Hastings.
Brattle Street, corner Ash.
Brattle Street, corner Hilliard.
Brattle Street, opposite University Press (post).
Brattle Street, corner Lowell.
Brattle Street, corner Fresh Pond Lane.
Brattle Street, opposite Mount Auburn greenhouse.
Brattle Street, front of Mrs. Wyeth's estate.
Brattle Street, corner Willard.
Brattle Street, corner Story.
Brattle Street, corner Channing.
Brattle Street, corner Lake View Avenue.
Brattle Street, corner Hawthorn (post).
Brattle Street, near Boylston (post).
Broadway, junction Cambridge Street.
Broadway, near junction Cambridge Street (post).
Broadway, corner Prescott Street.
Broadway, corner Trowbridge Street.
Broadway, corner Quincy Street.
Broadway, corner Ware Street.
Broadway, corner Ellery Street.
Buckingham Street, opposite Stevens's barn.
Buckingham Street, corner Concord Avenue (post).
Cambridge Street, corner Trowbridge.
Cambridge Street, corner Sumner.
Cambridge Street, front of Scientific School (post).
Cambridge Street, corner Quincy (post).
Cambridge Street, opposite Felton (post).
Cambridge, Street, corner Ellery (post).
Chauncy Street, near Garden (post).
Chauncy Street, corner Langdon.
Church Street, corner Palmer.
Concord Avenue, corner Sparks Street.
Concord Avenue opposite Craigie Street.
Concord Avenue, corner Follen Street (post).
Concord Avenue, corner Sparks Street (post).
Coolidge Avenue, between Mt. Auburn street and Cambridge Cemetery gate (2 posts).
Craigie Street, midway.
Craigie Street, near corner Sparks.
Cushing Street, opposite Cushing Place (post
Cushing Street, opposite Vineyard (post).
Cushing Street, southerly end (post.)
De Wolf Street, near Cowperthwaite.
Divinity Avenue, opposite Museum.
Dunster Street, corner South.
Dunster Street, corner Mt. Auburn.
Dunster Street, near Harvard Square (post).
Eliot Street, in elbow (post).
Eliot Street, corner Winthrop (post).
Ellery Street, corner Harvard (post).
Ellery Street, corner Main.
Ellery Street, east side, midway between Broadway and Cambridge Street.
Elmwood Avenue, midway (post).
Everett Street, south side, midway between North Avenue and Oxford Street.
Fayerweather Street, corner Brattle.
Fayerweather Street, opposite Reservoir.

Flagg Street corner Beaver (post).
Foster Street, corner Foster Place (post).
Garden Street, near Chauncy (post).
Garden Street, corner Mason.
Garden Street, corner Wallace.
Grant Street, corner De Wolf.
Harvard Square, opposite Charles River Bank (post).
Harvard Street, junction Main (post).
Harvard Street, corner Remington.
Harvard Street, opposite Harvard Block (post).
Harvard Street, opposite Linden (post).
Harvard College grounds, (3 posts).
Hawthorn Street, corner Acacia (post).
Holworthy Street, opposite school-house (post).
Holworthy Street, southerly end (post.)
Kirkland Street, corner Baldwin.
Kirkland Street, corner Trowbridge.
Kirkland Street, corner Irving.
Kirkland Street, corner Sumner.
Kirkland Street, corner Quincy.
Kirkland Street, opposite Memorial Hall.
Lake View Avenue, 500 feet from Brattle Street.
Lake View Avenue, near Brattle Street (post).
Lake View Avenue, corner Huron Street (post).
Lake View Avenue, on hill, (post).
Lake View Avenue, near engine-house (post).
Langdon Street, in elbow (post).
Locust Street, corner Holworthy (post).
Main Street, corner Trowbridge.
Main Street, near Baptist Church.
Mellen Street, corner Oxford.
Mill Street, corner Holyoke (post).
Mill Street, corner Charles River.
Mt. Auburn Street, corner Brighton (post).
Mt. Auburn Street, opposite Athens.
Mt. Auburn and Bow Streets.
Mt. Auburn Street, opposite De Wolf.
Mt. Auburn Street, corner Willard (post).
Mt. Auburn Street, corner Sparks (post).
Mt. Auburn Street, opposite McDonald's marble works.
Mt. Auburn Street, opposite railroad stables (post).
Mt. Auburn Street, near Lowell (post).
Mt. Auburn Street, corner Dunster (post).
Mt. Auburn Street, corner Holyoke (post).
Mt. Auburn Street, corner Athens (post).
Mt. Auburn Street, corner Banks (post).
Mt. Auburn Street, corner De Wolf (post).
Mt. Auburn Street, corner Story (post).
Mt. Auburn Street, corner Hilliard (post).
Mt. Auburn Street, opposite City Building (post).
Mt. Auburn Street, opposite Brewer (post).
Mt. Auburn Street, corner Auburn Place (post).
Mt. Auburn Street, opposite Bath (post).
Mt. Auburn Street, near Coolidge Lane (post).
Mt. Auburn Street, corner Elmwood Avenue (post).
Mt. Auburn Street, corner Channing (post).
Murray Street, near Charles River.
Murray Street, corner Lyman (post).
North Avenue, corner Chauncy Street.
North Avenue, corner Shepard Street (post).
North Avenue, corner Holmes Place.
North Avenue, corner Jarvis Street.
North Avenue, front of burial-ground (post).
North Avenue, corner Church Street.
North Avenue, corner Garden Street (post .
Oxford Street, near Jarvis.
Oxford Street, corner Everett.
Phillips Place, corner Berkeley Street.
Prescott Street, corner Harvard.
Prescott Street, between Harvard Street and Broadway (post).
Putnam Avenue, corner Western Avenue.
Putnam Avenue, between Mt. Auburn and Main Streets (post).
Putnam Avenue, corner Flagg Street (post).
Putnam Avenue, opposite Putnam Court (post).
Putnam Avenue, near Hews Street (post).
Putnam Avenue, corner Sands Street (post).
Quincy Street, midway between Harvard and Broadway (post).
Riedesel Avenue, corner Brattle (post).
Sands Street, opposite planing-mill.
South Street, corner Dunster (post).

Sparks Street, corner Vassal Lane (post).
Sparks Street, corner Foster (post).
Sparks Street, opposite Charles T. Russell's (post).
Trowbridge Street, midway between Main and Harvard (post).
Waterhouse Street, opposite Concord Avenue (post.)
Waterhouse Street, opposite Follen (post.)
Wendell Street, near Carver (post).
Wendell Street, midway between North Avenue and Oxford Street, (post).
Willard Street, corner Foster (post).
Worthington Street, near engine-house of Water Works. (post).

Ward Two.

Amory Street, corner Summer (post).
Antrim Street, near Broadway.
Antrim Street, near Cambridge (post).
Antrim Street, midway (post).
Austin Street, corner Essex (post).
Austin Street, corner Prospect (post.)
Austin Street, corner Temple (post).
Bigelow Street, midway between Main and Harvard.
Brewery Street, near Hastings (post).
Bristol Street, corner Portland (post).
Broadway, corner Highland Avenue.
Broadway, corner Hancock Street.
Broadway, corner Antrim Street.
Broadway, corner Tremont Street (post).
Broadway, corner Elm Street.
Broadway, corner Pelham Street.
Broadway, corner Dana Street.
Broadway, corner Ellsworth Avenue.
Broadway, corner Fayette Street.
Broadway, corner Amory Street.
Broadway, corner Norfolk Street.
Broadway, corner Boardman Street.
Broadway, opposite Thayer's Laboratory (post).
Broadway, near Broadway House.
Broadway, corner Clark Street (post).
Broadway, corner Third Street (post).
Broadway, corner Davis Street (post).
Broadway, corner Brewery Street (post).
Broadway, opposite Mason & Hamlin's building (post).
Broadway, near Sixth Street (post).
Broadway, corner Pioneer Street (post).
Cambridge Street, corner Harding.
Cambridge Street, corner Norfolk.
Cambridge Street, corner Willow.
Cambridge Street, corner Prospect (post).
Cambridge Street, corner Tremont.
Cambridge Street, opposite Fayette.
Cambridge Street, corner Springfield.
Cambridge Street, opposite head of Maple Avenue.
Cambridge Street, corner McCabe (post).
Cambridge Street, corner Elm (post).
Cambridge Street, corner Winsor (post).
Cambridge Street, near Mr. Rafferty's house (post).
Cambridge Street, nearly opposite Ellsworth Avenue (post).
Centre Street, opposite No. 14.
Clinton Street, near G. T. Gale's house (post).
Columbia Street, corner Lincoln.
Columbia Street, corner Market.
Columbia Street, corner Hampshire.
Columbia Street, corner Harvard.
Dana Street, corner Chatham (post).
Dana Street, between Broadway and Cambridge Street (post).
Davis Street, corner Broadway.
Elm Street, opposite Lincoln (post).
Elm Street, corner Market.
Essex Street, westerly side, midway between Harvard and Austin (post).
Fayette Street, 500 feet from Broadway.
Hampshire Street, corner Amory (post).
Hampshire Street, near Somerville line (post).
Hampshire Street, corner Portland (post).
Harvard Street, corner Pine.
Harvard Street, corner Hancock.
Harvard Street, corner Clark.
Harvard Street, corner Dana.
Harvard Street, corner Moore.
Harvard Street, corner Norfolk.
Harvard Street, corner Portland.
Harvard Street, corner Brewery.
Harvard Street, corner Clinton.
Harvard Street, near Railroad Crossing (post).

Harvard Street, between Railroad Crossing and Brewery Street (post).
Harvard Street, opposite Davis (post).
Harvard Street, corner Cherry (post).
Harvard Street, corner Winsor (post).
Harvard Street, opposite Elm (post).
Harvard Street, corner Essex (post).
Harvard Street, corner Prospect (post).
Harvard Street, between Prospect and Inman (post).
Harvard Street, corner Bigelow (post).
Harvard Street, corner Lee (post).
Highland Avenue, east side, midway.
Houghton Street, corner Bolton, in Somerville.
Hunting Street, 400 feet from Cambridge.
Inman Street, near Austin.
Inman Street, corner Harvard.
Inman Street, corner Broadway.
Inman Street, opposite No. 110 (post.)
Inman Street, opposite Summer.
Jefferson Street, corner Harding.
Jefferson Street, corner Warren (post.)
Jefferson Street, opposite McCabe (post).
Lee Street, midway between Main and Harvard (post).
Main Street, corner Lee.
Main Street, corner Hancock.
Main Street, opposite Bay.
Main Street, corner Pelham (post).
Main Street, corner Essex.
Main Street, opposite Pleasant.
Main Street, corner Bigelow.
Main Street, junction Harvard.
Main Street, corner Pioneer (post).
Main Street, opposite Rawson & Hittinger's.
Main Street, opposite Pearl (post).
Main Street, Gale's driveway (post).
Main Street, opposite Third (post).
Maple Avenue, midway between Broadway and Cambridge Street.
Market Street, corner Union.
Moore Street, head of Hastings.
Norfolk Street, corner Hampshire.
Norfolk Street, corner Worcester.
Norfolk Street, head of Washington (post).
Norfolk Street, opposite No. 95 (post).
Oak Street, west side, near Somerville line.
Plymouth Street, corner Berkshire.
Porter Street, corner Bedford (post).
Porter Street, corner Harding (post).
Portland Street, opposite rolling-mill (post).
Portland Street, corner York (post).
Prospect Street, opposite Mr. Tilton's.
Prospect Street, corner Broadway.
Prospect Street, corner Hampshire.
Prospect Street, corner Main.
Prospect Street, corner Gardner.
Prospect Street, opposite school-house, Somerville.
Prospect Street, corner Webster Avenue, Somerville.
Seckel Street, corner Webster Avenue, (post).
South Street, opposite Willow, Somerville.
South Street, corner Gore, Somerville.
Tremont Street, near Wellington's house (post).
Tremont Street, near Hampshire (post).
Tremont Street, opposite Gardner (post).
Tremont Street, west side, 200 feet from Cambridge.
Union Street, corner Hampshire.
Ward Street, corner Horace, Somerville.
Webster Avenue, corner Elm Street.
Webster Avenue, corner Bristol Street.
Webster Avenue, corner Winsor Street.
Webster Avenue, corner Hampshire Street.
Webster Avenue, corner Plymouth Street.
Webster Avenue, corner Cambridge Street (post).
West Boston Bridge.
West Boston Bridge.
West Street, midway (post).
Winsor Street, corner Lincoln.
Winsor Street, corner Hampshire.
Winsor Street, corner Washington.
Winsor Street, near Somerville line (post).
Winsor Street, corner Broadway (post)

Ward Three.

Binney Street, corner Ninth (post).
Binney Street, near Railroad Crossing (post).
Bridge Street, at Wellington's Wharf post).
Bridge Street, at Sanborn's Wharf post).
Bridge Street, corner Prison Point.
Bridge Street, corner Short.
Bridge Street, corner Short (post).
Bridge Street, corner Water. [(post).
Bridge Street, near Bay State glass-house
Bridge Street, north side, opposite Braman, Shaw, & Co's.
Bridge Street, opposite Fourth (post).
Bridge Street, between Short and Water (post).
Bridge Street, near Cambridge (post).
Bridge Street, corner Water (post).
Bridge Street, corner East (post).
Bridge Street, near bridge (post).
Cambridge Street, opposite First.
Cambridge Street, corner Carson.
Cambridge Street, corner Daily's Alley.
Cambridge Street, corner Third.
Cambridge Street, junction Bridge.
Cambridge Street, corner Sixth.
Cambridge Street, near Railroad Crossing (post).
Cambridge Street, opposite Seventh (post).
Cambridge Street, opposite No. 141 (post).
Cambridge Street, near Third (post).
Cambridge Street, corner Fourth (post).
Charles Street, corner Fourth.
Charles Street, corner Third (post).
East Street, corner North (post).
Eighth Street, corner Cambridge.
Fifth Street, corner Winter (post).
Fifth Street, corner Charles.
Fifth Street, corner Spring.
Fifth Street, corner Cambridge.
Fifth Street, corner Gore.
First Street, near Otis (post).
First Street, corner Spring (post).
First Street, corner Vine (post).
Fourth Street, corner Winter (post).
Fourth Street, corner Winter.
Fourth Street, corner Cambridge.
Fourth Street, corner Vine.
Fourth Street, corner Thorndike.
Gore Street, corner Third (post).
Gore Street, corner Fourth.
Gore Street, corner Carson (post).
Gore Street, corner Seventh (post).
Gore Street, between Fourth and Fifth, (post).
Gore Street, between Fifth and Sixth (post).
Munroe Street, corner Third (post).
North Street, corner East.
North Street, opposite Short (post).
North Street, near Water (post).
Otis Street, corner Third.
Otis Street, corner Seventh.
Otis Street, corner Ninth.
Potter Street, corner Ninth (post).
Prison Point Street, 50 feet north of ice-sheds (post).
Prison Point Street, on railroad track, 300 feet from street.
Prison Point Street, near passenger track (post).
Prison Point Street, on railroad track, 600 feet from street.
Prison Point Street, 400 feet from Bridge Street.
Prison Point Street, near Bridge (post).
Prison Point Street, near ice-house (post).
Second Street, corner Thorndike.
Second Street, corner Otis.
Second Street, corner Cambridge.
Sixth Street, corner Gore.
Sixth Street, corner Potter.
Sixth Street, corner Charles (post).
Sixth Street, corner Spring (post).
Spring Street, corner Second.
Spring Street, corner Third.
Spring Street, corner Fourth.
Spring Street, corner Ninth.
Third Street, corner Vine.
Third Street, near Charles (post).
Third Street, corner Bridge (post).
Third Street, corner Potter.
Third Street, opposite gas-works (post).
Thorndike Street, corner Sixth.
Thorndike Street, corner Fifth.
Thorndike Street, near Woodbury's mill (post).
Thorndike Street, corner Second (post).
Vine Street, corner Fifth.
Vine Street, corner Sixth.
Water Street, near sugar-house.
Yard of J. P. Squire & Co. (post).
Yard of American Rubber Co. (post).

Ward Four.

Albany Street, corner Main (post).
Albany Street, opposite Portland (post).
Austin Street, corner Douglass (post).
Austin Street, corner Norfolk (post).
Blackstone Street, west side, 100 feet from avenue (post).
Blackstone Street, opposite Riverside Press (post).
Brookline Street, corner Allston.
Brookline Street, corner Hamilton.
Brookline Street, corner Valentine.
Brookline Street, corner Putnam Avenue.
Brookline Street, corner Erie.
Brookline Street, corner Franklin.
Brookline Street, corner Chestnut.
Brookline Street, near Henry (post).
Brookline Street, corner Decatur (post).
Brookline Street, corner Lopez (post).
Brookline Street, corner Watson (post).
Cherry Street, opposite Eaton.
Chestnut Street, corner Pearl.
Columbia Street, corner Austin.
Columbia Street, corner Washington.
Cottage Street, corner Pearl (post).
Eaton Street, corner Pine (post).
Erie Street, corner Pearl (post).
Erie Street, between Pearl and Brookline (post).
Fairmont Street, corner Andrew (post).
Franklin Street, corner Soden (post).
Franklin Street, corner Hancock (post).
Franklin Street, corner Bay (post).
Franklin Street, near the hill (post).
Franklin Street, corner Sidney.
Franklin Street, midway between Brookline and Sidney (post).
Franklin Street, corner Magazine.
Franklin Street, corner Pleasant.
Franklin Street, near Putnam Avenue (post).
Front Street, junction State.
Front Street, corner Columbia (post).
Green Street, opposite Vernon.
Green Street, corner Putnam Avenue.
Green Street, corner Hancock (post).
Green Street, corner Bay (post).
Green Street, midway between Hancock and Vernon (post).
Green Street, corner Vernon (post.)
Green Street, corner Pleasant (post).
Green Street, corner Western Avenue (post).
Green Street, corner Pearl (post).
Green Street, corner Brookline (post).
Grigg Street, corner Putnam Avenue.
Henry Street, near Hastings (post).
Kinnaird Street, corner Bay (post).
Magazine Street, corner Cottage.
Magazine Street, corner Putnam Avenue
Magazine Street, corner Warland.
Magazine Street, corner Auburn.
Magazine Street, corner Park.
Magazine Street, corner Upton.
Magazine Street, opposite Hamilton.
Magazine Street, opposite Allston (post).
Magazine Street, corner Florence.
Magazine Street, corner Green (post.)
Main Street, corner Harrison (post).
Main Street, corner Columbia.
Main Street, corner Winsor.
Main Street, corner Norfolk.
Main Street, junction Austin.
Main Street, north side, opposite Kennedy's bakery.
Main Street, corner Washington.
Main Street, corner Portland.
Osborn Street, corner State (post).
Osborn Street, corner Main (post).
Pacific Street, corner Sidney.
Pacific Street, near Albany.
Pearl Street, corner Lake.
Pearl Street, corner Allston (post).
Pearl Street, corner Putnam Avenue.
Pearl Street, corner Decatur.
Pearl Street, corner Auburn.
Pearl Street, corner Glenwood (post).
Pleasant Street, corner Florence (post).
Pleasant Street, corner Upton.
Pleasant Street, corner Somerset.
Pleasant Street, corner Park.
Pleasant Street, corner Prince.
Pleasant Street, corner Pleasant Place (post).
Pleasant Street, corner Chestnut.
Pleasant Street, corner Franklin (post).
Portland Street, corner Main (post).
Putnam Avenue, opposite Ballard Place (post).
Putnam Avenue, near River Street (post).
Putnam Avenue, corner River Street (post).

Putnam Avenue, corner Walnut Court (post).
Putnam Avenue, corner Pleasant Street (post).
Putnam Avenue, between River and Pleasant Streets (post).
Putnam Avenue, corner Waverly Street (post).
River Street, corner Franklin.
River Street, opposite Cottage.
River Street, opposite Laurel.
River Street, corner Blackstone.
River Street, opposite Fairmont.
School Street, corner Clark.
School Street, corner Portland (post).
School Street, corner Clark (post).
School Street, corner Moore (post).
Somerset Street, corner Andrew (post).
State Street, opposite Village (post).
State Street, near Howe's Factory (post).
Sidney Street, corner Allston.
Sidney Street, corner Putnam Avenue.
Sidney Street, corner Chestnut.
Sidney Street, corner Front (post).
Sidney Street, corner Green (post).
Washington Street, corner Brewery (post).
Washington Street, corner Clark.
Washington Street, corner Portland (post).
Washington Street, corner Moore (post).
Waverly Street, corner Allston (post).
Western Avenue, corner Howard Street.
Western Avenue, corner Kinnaird Street.
Western Avenue, corner Jay Street.
Western Avenue, opposite Soden Street (post).
William Street, between Magazine and River (post).

Ward Five.

Arlington Street, 500 feet from North Avenue (post).
Beech Street, east side, 20 feet from Orchard.
Belmont Street, corner Montgomery (post).
Blake Street, corner North Avenue (post).
Cedar Street, corner Spruce.
Cedar Street, opposite Norris.
Cedar Street, opposite hotel.
Cogswell Avenue, corner Mead Street.
Concord Avenue, corner Madison Street.
Concord Avenue, opposite Bond Street.
Concord Avenue, corner Walden Street.
Concord Avenue, opposite Eames's estate (post).
Crescent Street, corner Sacramento (post).
Donnell Street, corner Garden.
Dublin Street, 525 feet from Spruce.
Dublin Street, 620 feet from Walden.
Dublin Street, corner Walden.
Dublin Street, corner Bolton.
Dublin Street, corner Railroad (post.)
Fairfield Street, opposite Mr. Whitney's.
Forest Street, corner Frost (post).
Garden Court, corner Dublin Street.
Garden Street, opposite Bond.
Garfield Street, corner Oxford (post).
Garfield Street, corner North Avenue (post).
Harris Street, corner Frost (post).
Harvey Street, opposite Montgomery.
Hollis Street, at the elbow.
Hubbard Avenue, opposite brick block.
Hubbard Avenue, corner Raymond Street.
Lambert Avenue, corner Walnut Avenue (post).
Lambert Avenue, corner North Avenue (post).
Lancaster Street, corner Lancaster Place (post).
Linnæan Street, corner Avon.
Linnæan Street, corner Bowdoin.
Linnæan Street, corner Raymond.
Martin Street, corner Hurlburt (post).
Milk Street, corner White.
Milk Street, near Somerville line (post).
Montgomery Street, 300 feet from Harvey (post).
Mt. Vernon Street, corner North Avenue (post).
Norris Street, midway (post).
North Avenue, near railroad bridge.
North Avenue, corner Cogswell Avenue.
North Avenue, corner Allen Street.
North Avenue, corner Dover Street.
North Avenue, 300 feet west of Tannery.

North Avenue, corner Sacramento Street.
North Avenue, opposite Linnæan Street.
North Avenue, corner Chester Street.
North Avenue, corner Arlington Street.
North Avenue, corner Rice Street.
North Avenue, corner Cedar Street.
North Avenue, opposite Tannery.
North Avenue, opposite No. 368 (post).
North Avenue, near Walcott Richardson's gate.
North Avenue, corner Beech.
North Avenue, corner Frank Street (post).
North Avenue, corner Day Street.
Norton Street, midway.
Orchard Street, near Davenport (post).
Orchard Street, opposite Tenney Court.
Oxford Street, corner Forest.
Oxford Street, corner Sacramento.
Pemberton Street, 500 feet from North Avenue (post).
Pemberton Street, corner Fairfield (post).
Raymond Street, south side (2), near Mr. Dresser's estate.
Reed Street, 250 feet from Harvey.
Reed Street, opposite school-house.
Rice Street, opposite L. L. Cushing's.
Richdale Avenue, corner Raymond Street.
Richdale Avenue, near Raymond Street (post).
Roseland Street, corner Frost.
Shepard Street, corner Avon.
Spruce Street, corner Hollis.
Spruce Street, corner Jackson (post).
Spruce Street, corner Reed.
Spruce Street, corner Montgomery.
Spruce Street, corner North Avenue.
Spruce Street, opposite school-house.
Spruce Street, corner Clay.
Spruce Street, corner Clifton.
Tannery Street, (3), between North Avenue and Almshouse (posts).
Tuttle Street, opposite Ladd's barn.
Walden Street, corner Mead.
Walden Street, corner North Avenue (post).
Walden Street, corner Hubbard Avenue.
Wallace Street, in the elbow.
Washington Avenue, corner Dexter.
Washington Avenue, corner Hillside Avenue.
Wyeth Street, corner Garden.

RESERVOIRS.

Ward One.

Bow Street, centre of square.
Brighton Street, corner Eliot.
College Yard.
Garden Street, north end of Appian Way
Junction Garden Street and Concord Avenue, opposite Arsenal.

Ward Two.

Broadway, head of Tremont Street.
Cambridge Street, corner Webster Avenue.
Essex Street, corner Austin.
Harvard Street, opposite Broadway Park.
Harvard Street, head of Cherry.
Harvard Street, corner Davis.
Harvard Street, corner Prospect.
Norfolk Street, midway between Broadway and Hampshire.
Washington Street, corner Cherry.

Ward Three.

Cambridge Street, 70 feet east of Third.
Gore Street, corner North Third.
Junction Bridge and Gore Streets.
Otis Street, corner Fourth.
Thorndike Street, corner Third.
Under New England Glass Company's building.
Under Lowell Railroad machine-shop.

Ward Four.

Junction Western Avenue and Pleasant Streets.
Lafayette Square (2).
Main Street, corner Austin.
Main Street, corner Brookline.

Ward Five.

North Avenue, near Engine-House No. 4.

CAMBRIDGE FIRE-ALARM TELEGRAPH.

LOCATION OF BOXES.

2. Prison Point Street, corner Bridge.
4. Gore, J. P. Squire's building.
6. Third, corner Broadway.
7. Third, corner Bent.
8. Thorndike, corner Third.
9. Cambridge, near First.
12. Winter, corner Third.
12. North, corner Water (duplicate).
13. Fourth, Engine-House No. 3.
14. Sixth, corner Cambridge.
15. Vine, corner Fifth.
16. Broadway, Greely's mill.
17. Washington, corner Brewery.
21. Sidney, corner Allston.
23. Pearl, corner Auburn.
24. Brookline, corner Valentine.
25. Main and Front (junction).
26. Main, corner Osborn.
27. Clark, corner Harvard.
28. Broadway, opp. Page's box factory.
29. Pine, corner Washington.
31. Cambridge, corner Harding.
32. Columbia, corner Cambridge.
34. Hampshire, corner Columbia.
35. Harvard, corner Norfolk.
36. Main, corner Western Avenue.
37. Pleasant and River (junction).
38. Magazine, corner Lake.
39. Magazine, corner Chestnut.
41. Pleasant, corner Fairmont.
42. Blackstone, opp. Riverside Press.
43. Banks, corner Flagg.
45. Franklin, near Soden.
46. Main, corner Hancock.
47. Broadway, corner Antrim.
48. Cambridge, corner Hampshire (junction).
49. Cambridge, corner Baldwin.
51. Broadway, corner Ellery.
52. Mt. Auburn and Main (junction).
53. Mt. Auburn, corner Holyoke Place.
54. Cambridge, Memorial Hall (south side.)
56. Kirkland, corner Sumner.
57. Oxford. corner Mellen. [store.
59. Harvard Square, Ramsey's drug
61. Brattle Square, City Building.
62. Mt. Auburn, corner Hilliard.
63. Brattle, corner Mason (junction).
64. Chauncy, corner Garden.
65. North Avenue, corner Shepard.
68. North Avenue, near railroad bridge.
69. North Avenue, Engine-House No. 4.
71. North Avenue, near Tannery.
72. Cedar, hotel building.
73. Spruce, near Bay State brick-yard.
74. Dublin, corner Railroad.
75. Walden, corner Raymond.
76. Walnut avenue, corner Arlington.
78. Concord Avenue, corner Sparks.
79. Brattle, corner Sparks.
82. Brattle, corner Elmwood Avenue.
83. Mt. Auburn, near railroad stable.
87. Lake View Avenue, near junction Concord Avenue.
89. Concord Avenue, near Hittinger's ice-houses.
91. North Avenue, Union Railway car-house.
92. Locust, corner Cushing.
114. Ninth Street, Goepper Brothers' barrel factory.
116. Broadway, Tower's piano-action factory.
125. Green, F. A. Kennedy's cracker bakery.
152. Main, corner Bow.
216. Potter, rubber-factory yard.

INSTRUCTIONS TO KEY HOLDERS.

Alarms to be given from the box nearest the location of the fire.

Don't give an alarm for a fire seen at a distance, unless assistance is called for.

To give an alarm, open the door, pull the hook to the bottom of the slot once, and let go. Each box contains a small bell, which, if heard before you pull, indicates that an alarm has been previously given; and, by listening at the box, you will learn the number of the box from which the alarm was given; but in no case must you pull the hook while the alarm is striking. After giving the alarm, remain at the box, so as to direct the firemen to the fire. Be sure that you lock the box before leaving it.

Citizens are requested to inform themselves where keys to the signal-boxes are kept, signs suitably inscribed being placed over each box, giving the requisite information.

INSTRUCTIONS TO FIREMEN.

First alarm will be given by striking *three* or more rounds.

Second alarm will be given by repeating the first.

General alarm will be given by striking *three blows* on the gongs and bells.

In cases where hook-and-ladder companies only are wanted, the call will be given by striking *five blows.*

Companies not required to respond to first or second alarms will be notified by *two blows* on the gongs of the extinguishment of a fire, that their services will not be needed, and that orders have been given to "make up." Should an alarm be given from any box while a portion of the department is engaged at a fire, the apparatus not in service will respond.

REPORT

OF THE

CHIEF OF POLICE.

To the Honorable Mayor and City Council:—

GENTLEMEN,—In compliance with the City Ordinance, I have the honor to present my second annual report of the work of the Police Department for the year ending Nov. 30th, 1885.

Whole number of arrests		1,884
Males	1,700	
Females	184	
Adults	1,564	
Minors	320	

Causes of Arrest.

Assault and battery	242
Assault, felonious	19
Assault on officer	16
Attempt to rescue	2
Assault, indecent	3
Arrested on capias	1
Adultery	5
Breaking and entering	44
Bastardy	12
Common drunkards	13
Cruelty to dumb animals	4
Common railer and brawler	0
Cruelty to children	13
Concealing mortgaged property	2
Disturbing the peace	49
Disturbing public meetings	3
Drunkenness	873
Delirium tremens	2
Embezzlement	4

Escaped prisoners	2
Extortion	2
Evading car-fare	8
Exposure of person	4
Fast driving	11
False pretences	3
Gambling	3
Idle and disorderly	13
Insane	17
Incest	1
Larceny	165
Larceny from building	10
Malicious mischief	22
Manslaughter	2
Murder	1
Neglected children	12
Night-walking	1
Peddling without license	20
Pickpockets	3
Rude and disorderly	3
Rape	1
Safe keeping	6
Stubborn children	9
Suspicious persons	42
Surety of the peace	6
Stealing a ride	11
Truants	5
Vagrants	36
Violation of city ordinance	87
Violation of the Lord's day	17
Violation of health ordinance	5
Violation of liquor law	32
Wilful trespass	17
Total	1,884

Number of lodgers		1,201
Males	1,145	
Females	56	
Minors	70	
Adults	1,131	

Miscellaneous Business.

Accidents reported	88
Buildings found open and secured	220
Cases investigated	714
Dangerous buildings	10
Dead bodies found	20
Defective cesspools	43
Defective drains and vaults reported	164
Defective gas-pipes reported	4

Defective hydrants reported	4
Defective lamps	3
Defective streets and sidewalks	674
Defective water-pipes	40
Disturbances suppressed	380
Extra duty done by officers (days)	311
Fire alarms given by officers	27
Fires extinguished without alarm	19
Intoxicated persons helped home	69
Lost children restored	285
Sick and injured persons assisted	15
Stray teams put up	105
Street obstructions removed	24
Water running to waste	42

Value of property reported stolen	$4,439.10
Value of property reported recovered	$2,047.00

City Property in Use by Police Department.

75 badges	$100.00
80 billies (short)	50.00
54 belts and billies for parade	54.00
18 buckets	9.00
2 bookcases	12.00
4 bedsteads	12.00
Bedding and blankets	30.00
8 books	26.00
2 brooms	.50
Boat and grapples	10.00
2 bureaus	3.00
1 buggy	100.00
8 clocks	40.00
50 chairs	50.00
2 coal-hods	1.00
4 carpets	60.00
1 copying-machine	8.00
9 desks	180.00
3 dust-pans	.50
2 horses	250.00
2 sets of harnesses	40.00
2 horse blankets	6.00
13 pairs of hand-cuffs	26.00
1 hat-rack	.50
1 ice hatchet and tongs	1.00
2 halters	1.00
2 straps and weights	1.00
3 thermometers	.75
3 wash bowls	.75
18 lanterns	18.00
Amount carried forward	$1,091.00

Amount brought forward	$1,091.00
5 lounges	30.00
1 letter-scale	.75
2 lamps	1.00
8 mirrors	14.00
4 mats	4.00
3 maps	1.00
6 oil-cans	1.50
10 pistols	5.00
1 police van (large)	150.00
1 police van (small)	200.00
1 pair of runners	6.00
Ropes and stakes	25.00
3 robes	3.00
6 slates	1.00
16 spittoons	4.00
1 sleigh	10.00
4 stretchers	6.00
3 saddles	15.00
1 safe	200.00
3 stoves	30.00
Telephone line	300.00
30 tin dippers	3.00
16 towels	3.00
8 tables	24.00
3 umbrella-stands	2.00
6 waste-baskets	2.00
4 water-coolers	4.00
4 water pails	1.00
1 wagon	30.00
1 wagon-jack	1.00
1 wardrobe	10.00
Total	$2,178.25

Total Cost of the Department for the Year.

Appropriation and estimated revenue	$80,000.00

EXPENDITURES.

Buttons and straps	$52.15
Carriage-hire	7.50
Cleaning stations	136.73
Directories	15.00
Expressing	1.00
Fuel	36.28
Gas	499.18
Harnesses and repairs	51.05
Horses	150.00
Horse-shoeing	35.00
Amount carried forward	$983.89

Amount brought forward	$983.89
Horses, boarding	568.41
Money expended to get Chas. Hayes	71.75
Policemen, services of	73,496.70
Printing and bill-posting	30.29
Photographing	3.00
Repairs on stations	782.78
Repairs of vehicles	99.43
Rogues' gallery	150.00
Supplies for stations	200.23
Salary of L. J. Cloyes, chief of police	1,600.00
Surgical attendance and medicines	28.30
Telephone Co.	279.00
Travelling expenses	12.70
Water	41.00
Incidentals	10.25
Expenditures	$78,357.73
Receipts	6,043.84
Balance showing actual cost	$72,313.89

The organization of the force is the same as last year, and consists of a chief, three captains, ten sergeants, and sixty-two patrolmen. Three sergeants and thirteen patrolmen are on duty in the daytime, including one patrolman who has the charge of Station Five; two sergeants are detailed as inspectors. During the night-time there are seven sergeants and forty-nine patrolmen on duty: one as house-sergeant at Station One; six as patrol-sergeants, — two in each Police district, a sergeant with each relief; three patrolmen as house-officers, and forty-six officers divided into two reliefs.

The members of the force of all grades have, with a few exceptions, discharged the respective duties assigned them in a very satisfactory manner.

A determined effort has been made to suppress the illegal sale of intoxicating liquors; the difficulty of procuring evidence sufficient for conviction is such as few persons unacquainted with the business are aware of; persons holding inn-holders' licenses have the privilege of selling to their guests on the Lord's day and, as the conditions of their licenses permit sales in any part of the licensed premises, it is an easy matter for them to transact business; all other licensed places are closed on that day.

The telephones and wires used for telephone purposes in the Police Department were found to be in a very unreliable condition, rendering it necessary for us to construct a new line for the sole use of the Police Department, and to purchase five new telephones and two switches, thus connecting each station with the District Telephone, and enabling all parts of the city to call an officer at once; this we have found to give general satisfaction throughout the city.

Having visited the Police Head-quarters in Boston and New York and finding their system of keeping a record of the Rogues to be of great assistance to the officers, I recommended the same to the Committee on Police, and a cabinet was purchased with a holding capacity of two thousand pictures, which I expect to have in running order very soon.

The members of the Department are entitled to my thanks for their support and prompt obedience to orders.

To his Honor Mayor Russell, and the Board of Aldermen, I return my sincere thanks for their confidence and support.

Respectfully submitted,

LOTHROP J. CLOYES,
Chief of Police.

REPORT

OF THE

PROBATION OFFICER.

OFFICE OF PROBATION OFFICER, CITY BUILDING,
Brattle Square, Cambridge, Nov. 30, 1885.

To His Honor the Mayor and the Board of Aldermen:—

GENTLEMEN:—I herewith submit for your information an account of the work performed by me as Probation Officer since March 6, 1885, at which time I entered upon the duties so kindly entrusted by you to my charge.

Public Statutes.

It may be of interest to quote Sections 75 and 76 of Chapter 112 of the Public Statutes, to show what duties the law requires probation officers to perform, the terms of which I have made it my aim studiously to observe. The law mentioned reads as fol lows:—

"The probation officer shall carefully inquire into the character and offence of every person arrested for crime in his city or town, for the purpose of ascertaining whether the accused may reasonably be expected to reform without punishment, and shall keep a full record of the results of his investigations.

"Such probation officer, if satisfied upon investigation that the best interests of the public and of the accused would be subserved by placing him upon probation, shall recommend the same to the court trying the case, and the court may permit the accused to be placed upon probation, upon such terms as it may deem best, having regard to his reformation."

Under the authority vested by the foregoing sections of the law, I have faithfully endeavored to observe the conditions contained therein.

Line of Inquiry.

During my brief official career, I have investigated 1,115 cases by first questioning the accused, before their arraignment in court, in order to ascertain from them their names, ages, residences, and occupations, and also to learn whether they have ever been arrested before, the number of persons dependent upon them for support, and to obtain such further statements regarding the offences committed by them, etc., as they were willing to make. Information has also been sought from the arresting officers, and from friends of the accused, who might be present in court, regarding the previous character of the prisoners.

Faithful endeavor to be thorough in this line of inquiry has been made, and the examinations have been rigidly pressed with a view to secure all the facts possible.

Disposal of Cases.

Great care has been exercised to recommend no person for judicial clemency until the belief was fully established that the offender was earnest in the desire to reform and lead a better life. All appeals to the court have been based upon the apparent sincerity of the persons seeking clemency. In cases where persons have been put on probation it has been done with the understanding that they be placed under the care of the Probation Officer, and that they be required to abstain from the use of intoxicating liquors, to be of good behavior, and to report to the officer at such times during the probationary period as he might direct. Other conditions, as the nature of the case might demand, have also been imposed.

Persons placed on probation by order of the court, have been instructed in writing that, for the slightest violation of the provisions governing their temporary release from custody, they would be subject to punishment.

Visitations and Assistance.

Visits have been made at proper intervals to the homes or places of employment of persons given their liberty under probation, and rigid inquiries have been made of those acquainted with

them as to their general conduct. Words of advice and encouragement are bestowed to strengthen and cheer them on, and it has sometimes been found necessary to admonish them to live up to their pledges of reformation. In some instances assistance has been rendered by procuring employment for those having nothing to do. These features of the duties of the office are important ones, for they afford the encouragement so essential for the reformation of the criminal and degraded classes in the community.

The mere attempt to reform without the offer of a helping hand is cold comfort, and only tends to influence for the time being. A good situation in which an honest living may be earned is a great incentive to men laboring under the belief that they are outcasts upon the world and despised because of their misfortune. The lack of occupation promotes dissipation and crime, and to avert these it behooves well-thinking men to provide means by which the unemployed, who tend to intemperance and the lesser crimes, may be aided in their disposition to reform.

Probationary Period.

At the expiration of the term of probation, which continues from one to six months, appearance at court is required, at which time the Probation Officer reports to the court what the conduct of the offender or offenders has been. If his or their behavior appears to have been satisfactory to the court, the cash costs only are required to be paid. In some cases the costs are remitted on account of poverty or inability to pay. Should the court believe it necessary to prolong the term of probation, it so directs, and the probationer is continued under the watchful eye of the officer, to see that he does not fall by the wayside. A failure to observe the conditions requiring good behavior, subjects the offender to the penalty prescribed by law, which the court may or may not impose.

Intemperance.

By reference to the list of offences charged against offenders, it will be noticed that fifty-three cases of drunkenness appear.

In dealing with this class of violations of the law, I have given special attention to those who have not become habitual drunkards. Of the number put on probation at my instance,

forty were for the first time, so far as could be ascertained, before the court. Confirmed drunkards may sometimes be reformed, but it is my opinion that greater good can be accomplished by earnestly laboring to check the habit in beginners.

The Arrests in Cambridge.

The police annually arrest from 1,700 to 1,800 persons for all causes. Some of them are hardened criminals, some fall in a moment of temptation, while others become unfortunate by their thriftless mode of life, and by the baneful influences of their surroundings. This latter class is easily led astray when temptations beset them, but they are susceptible of reformation when judicious, kindly efforts are made for their reclamation. Some of these have been before the court under minor charges, and have been put upon probation, and are now trying to lead better lives.

Duties Performed.

The probation officer has, in the performance of his duty, attended the sessions of the District Court, and has also visited on seven different occasions the criminal sessions of the Superior Court.

Four applications for release from imprisonment in the House of Correction have been investigated by me, with the consent of the County Commissioners, and three of them have been granted and the applicants released on my recommendation.

The law provides that "it shall be the special duty of every probation officer to inform the court as far as is possible whether a person on trial has previously been convicted of any crime."

In conformity with the statute, I have kept a record of every conviction in the District Court, with the name, age and residence of every person, the nature of the offence, and the character of the sentence imposed.

The habitual offender becomes well-known to the court, and to trace his previous history, reference to the record prepared by the Probation Officer, which is indexed, and kept on file in the court room, will furnish definite information regarding him.

A monthly return has been forwarded to the Prison Commissioners, giving in detail such particulars as are required.

Statistical Information.

I herewith present an account of the work performed from March 6, 1885, to November 30, 1885.

Investigations, Probations, etc.

Number of cases investigated in the District Court	1,115
" " " " Superior Court	2
" " " " House of Correction	4
Number of persons put on probation in the District Court on my recommendation	79
Number of persons put on probation in the Superior Court	2
" " released from the House of Correction	3
" " improved in conduct and cases laid on file	58
" " who did not improve and were sentenced	5
" " under supervision Nov. 30, 1885	18

Nature of Offences.

Assault and battery	8
Breaking and entering	3
Drunkenness	53
Disturbing the peace	1
Larceny	6
Lewd and lascivious conduct	1
Idle and disorderly	1
Non-support of minor children	2
Playing cards on the Lord's day	1
Stubborn and disobedient	1
Idleness and vagrancy	3
Wilful trespass	1

Ages of Persons, Sex, etc.

Number of persons 20 years of age and under	30
" " between 20 and 30 years of age	21
" " between 30 and 40 years of age	21
" " over 40 years of age	9
Males	72
Females	9
Married	35
Unmarried	46

Nativity of Persons.

Born in the United States	58
" " British Provinces	6
" " Ireland	8
" " England	4
" " Sweden	3
" " Scotland	1
" " Norway	1

Recapitulation.

In presenting this first statement of my stewardship I have endeavored to render it in a clear and comprehensive manner. The duties of the office are somewhat multifarious, but I have striven with my best ability to give every case coming under my notice the fullest investigation and closest attention.

The statute is beneficial in its provisions, for under it great good can be accomplished, if persistent endeavor is made to influence men to turn from the downward path to a higher and better walk in life.

It may seem egotistical, but I cannot refrain from saying that my labors have, I believe, been productive of some good, for I am confident that thorough conversion has resulted in some cases, while in other instances effort to reform is earnestly being made.

Acknowledgments.

In closing this report, I desire to tender my acknowledgments to Hon. William H. Orcutt, Judge of the Third District Court of Eastern Middlesex, for his uniform courtesy and for his cordial coöperation in the endeavor to reclaim the unfortunate.

To Hon. William E. Russell, Mayor, and to the Board of Aldermen, and members of the Committee on Police, my thanks are due for the support given me, and for valuable advice.

I am also indebted to members of the police force for their assistance, and for the information so heartily given in the investigation of cases before the court.

Respectfully submitted,

FREDERICK W. HAGAR,

Probation Officer.

REPORT

OF THE

BOARD OF HEALTH.

To the Honorable City Council of the City of Cambridge:—

In compliance with the public statutes creating boards of health in the several cities and towns of the Commonwealth, which require that an annual report of the doings of such boards shall be made in the month of January of each year, we herein submit to your honorable body the details of the work of this office for the year ending December 31st, 1885, and also make such recommendations and discuss such topics as in our judgment the interest of the people, and the general sanitary welfare of the city require.

The following list shows the number and nature of the nuisances investigated.

Full privy-vaults and cesspools	561
Open, defective, broken and leaky privy-vaults	317
Filthy, defective privies and water-closets	174
Defective cesspools	42
Defective open drains and drainage	489
No traps under sinks	385
Privies on or near line	17
No proper privy-vault	36
Filthy yards, sheds, and cellars	56
Manure in yards	47
Leaky and defective sinks	52
No proper sinks	14
Swill, ashes, and garbage in yards and cellars	157
Stagnant water on premises	82
Wet and damp cellars	77
Filthy stables and yards	38
Swill and garbage thrown into privy-vaults	41
Miscellaneous	56
	2,641

Reference to this statement will show that a very large number of these nuisances are still caused, as in years past, by privy-vaults. We are aware that in nearly all the former reports of this board we have felt it our duty to call the especial attention of the City Council in such reports to the existence of this source of nuisance, still we make no apology for again referring to this matter. These vaults, whether old or new, are not only disgusting and offensive, but they are unquestionably one of the most prolific and common causes of the continuance and spread of the so-called filth diseases, if they are not at times the actual cause of them. If one will look at the maps in this office showing the location of the cases of scarlet-fever, diphtheria, typhoid fever, etc., that have occurred from year to year, for the last six years, and will compare it with the map showing the location of the privy-vaults, it will appear at a glance that where the colored dots indicating the one appear in the greatest number, there almost invariably appear the dots indicating the other in like proportion. Although we are ridding the city of these sources of nuisance from year to year, nearly a hundred having passed out of existence this year, still the process is a slow one, when we consider the importance of this matter in its relation to the public health, and when we remember that there are more than three thousand of them left.

We believe that the time has come when boards of health in the larger cities at least, should be given by legislative action much greater power over these most serious and dangerous sources of disease. We therefore recommend that some steps be taken in this direction at once.

We also urge upon property owners the great importance of replacing their vaults by water-closets. This can now be done at a comparative small cost, and will be not only economy, but of great service to the community.

A reference to the above statement of nuisances and to that of last year will show that the number of defective drains, which the board has investigated has increased more than twenty-fold over former years. This is not because such sanitary defects did not exist, but for the reason that they have been revealed by the house-to-house inspection of this year and last made by inspectors appointed for that purpose, all the time of the Health

Officer being required in attention to complaints, investigation of special nuisances, etc.

Last year, by reason of the expected invasion of cholera and the supposed importance of making such an inspection at once, four physicians were appointed who were to do this work in the early summer months. Since April of this year an inspector has been regularly employed for this purpose, a part of his work being a keeping of the records of the office.

This work of inspection is now done in a careful and thorough manner, and the sanitary condition of each house is recorded. This record states the kind of drain-pipe, whether metal or earthen, whether a house has a water-closet or a privy, the kind of water-closet, and in fact everything relating to the sanitary condition of the house. The record when completed for the entire city will be of great value for future reference. This inspection will continue to reveal many sanitary defects that could not be discovered in any other way, and these defects as a rule are the most serious and dangerous, consisting in a great majority of cases in the escape of sewer gas into houses. This work is being done at a cost of less than a thousand dollars a year, and should by all means be continued in the future. We are sure that no money is expended by the city where the people get so large a benefit from so small an outlay. No small part of this benefit is derived from the fact that such an inspection brings an agent of the board in close contact with all the people in their very homes, in many cases pointing out to them the sources of danger and how to avoid them.

The keeping of cows is one of the most common causes of nuisance with which we have to deal. This business is also a constant source of complaint, and the eighty-five filthy stables and yards and the manure in yards, referred to in the above list of nuisances investigated by this board, were nearly all of them the result of it. These cows, almost without exception, are kept in poorly ventilated, poorly constructed, and overcrowded barns, sheds, and out-houses, of all sizes and descriptions. This source of nuisance is constantly increasing, and in many instances these filthy cow stables are a continual annoyance, not only to people living in their immediate vicinity, but to whole neighborhoods. Some of these cows are poorly cared for, being confined

in barns or sheds during the whole of the winter months, and they are fed many of them with swill, brewers' grains, etc. We believe that milk produced under such circumstances is not a wholesome food; certainly it cannot be as good as that produced under circumstances more favorable to the health and well-being of the cows. We believe this matter to be of vital importance, and think that some immediate legislative action should be had, giving to boards of health the power to control this business in large cities.

Under the power given to this board to call upon the police to assist in its work, early in the spring the following instructions were given the patrolmen in relation to the reporting of nuisances. "Rule 34 of the Rules and Regulations of the Police Force directs that an officer on duty shall note where any noisome or unwholesome trade is carried on; also all nuisances and other matters affecting the safety and convenience of the public or the interests of the city.

"For the further instruction and information of officers, relating to the investigation and reporting of nuisances, we make the following suggestions: —

"Privy-vaults. All privy-vaults to be visited and carefully inspected at least three times a year. Such inspection to be made as follows: One between the fifteenth day of April and the first day of June; one between the fifteenth day of July and the first day of September, and one during the months of November and December.

"All full, offensive, broken or defective vaults, filthy privy-houses, seats in privy-houses without covers, to be reported with the name and address of the owner or agent of the premises where the nuisance exists. They should also report all filthy out-houses, stables, yards, houses or vacant lots, with the name and address of the owner or agent.

"Also, all places where swill, garbage, decayed fruit, or other filthy and offensive matter is thrown out or deposited, with the name and address of both the occupant and owner or agent of such premises. Also, any stagnant water, odor of sewer-gas, or other offensive odor, either in a house, yard or public street, as well as any other nuisance or cause of nuisance that may come under their observation. Premises or places where a nuisance

has been reported, should be again visited and inspected at the expiration of eight days from the time of report, and a second report as to whether or not the nuisance has been abated. A small blank book will be furnished to each officer, in which he can note the location of nuisances, name of owner or agent, etc. Blank forms will be furnished at the several Police Stations, to which can be transferred all complaints of nuisances, from the books of police officers, and forwarded to the Board of Health each day.

By order of the Board of Health."

These instructions have been fairly well carried out, and assistance has been rendered, particularly in looking after offensive vaults.

Nearly all the school-houses have been examined by the Health Officer during the year, in relation to their sanitary condition. Serious defects were found in the drainage systems of the Concord Avenue, Thorndike and Centre Street school-houses. These defects have been remedied by new and approved systems of drainage. We again make the following extract from our report of year before last, as we did last year relating to the privy-vault attached to the Allston school-house, hoping that in the end we may at least call the attention of the City Government to this matter if nothing more.

"We again call your attention to the privy-vault attached to the Allston school-house, Boardman Street. This vault is very large, being about eighteen feet long by twelve feet wide, and the odor coming from so large an area of sewage, particularly when agitated, as it is some three or four times a day, by five or six hundred children using it, is not only offensive, but more or less dangerous to the health of the occupants of the school-house. Some arrangement should at once be made to conduct the sewage directly and rapidly into the sewer, and this large vault should be done away with."

Quite a number of our school-houses still have as an attachment outside privy-vaults, although none of these are quite so offensive or dangerous as the one referred to above. We most earnestly recommend that the City Government take such action as will lead to the doing away with all of these and at once.

Surely when we are so earnestly urging and in some cases compelling, by process of law, our citizens to remove these sources of danger, the city should attend to this matter at once.

As your honorable body is aware, in the last few weeks a building such as we recommended last year has been constructed near the Almshouse, for the care of patients sick with contagious diseases. This building, if the city is allowed to use it for this purpose, will accommodate the pauper class suffering with such diseases, as well as others suffering with small-pox, except in case of a severe epidemic. Still, there is another class, and quite a large one, that is wholly unprovided for in this respect. We refer to families who, by reason of their poverty and surroundings, are unable to command the necessities of isolation in cases of diphtheria and scarlet-fever. Although these diseases are not so much dreaded and are perhaps not as contagious as small-pox, yet they have in the last ten years caused in this city almost a thousand-fold more deaths. Reference to the tabulated statement of the cases of diphtheria and the deaths from the same that have occurred in the city during the year, appended to this report, will show a considerably less number of cases than the report of last year, while the number of deaths from these causes is much larger. This is largely owing to the disease appearing in a number of instances in large families of children, and where, from the causes referred to above, the well could not be isolated from the sick, and largely for this reason one after the other sickened and, as a rule, died, these diseases generally being more fatal under such circumstances than where only single cases occur. Could the mother or other person who had charge of these children have taken the first child that was sick immediately to a hospital, there is every reason to believe that much of this sickness would have been prevented and many of the lives saved, but under the circumstances this was impossible. We believe that in the near future public opinion will demand isolation in cases of scarlet-fever and diphtheria, as they to-day demand the isolation of a case of small-pox. Certainly it is as desirable in the one case as in the other. We think some steps should be taken toward procuring a suitable place for the care of such patients. We would suggest that if some arrangement could be made with the trustees of the Cambridge Hospital to construct such a building on their

grounds, to be maintained and operated by them, such a plan would be to their advantage, as well as to that of the citizens generally.

On the recommendation of this board, sewers have been built in Bolton, Cottage, Parker and a small part of Mt. Auburn Streets. In Bolton Street all the drainage has heretofore been discharged either on the ground or into loose cesspools having no outlets. As the water supply was wholly from shallow, surface wells, this district was in a particularly dangerous condition and physicians practising in its vicinity have reported it as very unhealthy. Analysis of the water from several of these wells showed it to be seriously contaminated, as was suspected. On the recommendation of this board a supply of Fresh Pond water was put into this street.

During the year repeated complaints were made to us of the unhealthy condition of the low ground between Concord Avenue, Buckingham and Parker Streets, by people living in the neighborhood, and a hearing was had in relation to the matter. Although we did not think this district was particularly dangerous to the public health, there was danger that it might become so, for the reason that the filling for the purpose of making a street across the lower part of the lot, had cut off the natural drainage, causing the water to overflow a part of it at certain seasons of the year, and rendering it wet and damp at all times. Several houses have been built on this land and others are now building that without the sewer would have no reliable way of drainage. This land has been used as a dumping ground for the last two or three years, and all kinds of unsightly and in some cases offensive rubbish have been deposited here. If this rubbish is not dangerous to the public health, it is certainly a nuisance in the broadest sense of the term. If this dumping by the city is to be continued, it seems nothing more than fair and just to parties living in the immediate neighborhood, and who are constantly annoyed by this unsightly mass, that every effort should be made to make it as little offensive as possible. Such parts of it as will burn should be destroyed in that way, and such as will not, should be covered with clean ashes or some other material. The building of the sewer in First Street has rid the city of one of its most dangerous and offensive nuisances. This

was caused by filling the flats about the outlet of the Charles Street sewer. This filling has gone on from year to year, leaving the sewer outlet farther and farther inland and to discharge through an open channel left unfilled for that purpose. At low tide the sides and bottom of this channel, covered with a reeking, decomposing mass of solid and semi-solid sewage, were left wholly bare. The stench arising from this in warm weather had got to be intolerable and pervaded the whole neighborhood. This channel is now used as a dumping ground by the city of Boston and will be filled before the coming spring.

The condition of Alewife Brook and the outlet of the Bridge Street sewer remain about the same as last year, and for further details relating to them we respectfully call your attention to the reports of this board for the years 1883 and 1884. We would also call the attention of your honorable body to the urgent necessity for a sewer to relieve the Belmont District. The people living in this part of the city have for a number of years suffered severely from the want of a proper outlet for their sewage We believe that they are not only justly and fairly entitled to relief in this direction, but that it is imperative from a sanitary standpoint that something be done in the premises the coming year. During the last summer cases of sickness occurred in Auburn Place that were claimed by the attending physicians to be the direct result of bad drainage.

Early in the fall small-pox appeared in a severe epidemic form in Montreal and vicinity. As it was thought more than probable that this scourge might at any time appear here, the following circular relating to vaccination was issued, and ten thousand copies were distributed throughout the city, as the board believed it to be of the greatest importance to have every one vaccinated who had not been previously, at the earliest possible moment.

"Office of the Board of Health, City Hall.
September 26th, 1885.

"Vaccination. The attention of the people of the City of Cambridge is called to the following provisions of law:

"Parents and guardians shall cause their children and wards to be vaccinated before they attain the age of two years, and revaccinated whenever it shall be required after five years from the last vaccination.

"For every year's neglect the party offending shall forfeit the sum of five dollars.

"This board advises all persons who have not been re-vaccinated since the epidemic of small-pox in 1873, that they be vaccinated at once.

"The above provisions of law will be strictly enforced by this board.

"The city will furnish the means of vaccination to such of the inhabitants as are unable to pay for the same, and for such, physicians will be in attendance as follows:

"In Ward One, at City Building, Brattle Square.
In Wards Two and Four, at City Building, Central Square.
In Ward Three, at office of Dr. E. Walsh, No. 174 Cambridge Street.
In Ward Five, at office of Dr. F. W. Taylor, No. 141 North Avenue.

"These physicians will be in attendance as above, on Mondays, Wednesdays and Fridays, between the hours of 2 and 3 P. M., until further notice.

DANIEL H. THURSTON,
HENRY P. WALCOTT,
GEORGE F. PIPER,
} *Board of Health.*"

Vaccinations were discontinued by these physicians after three or four weeks, but are still kept up by the Health Officer at the Central Square Building on Friday from 2 to 3 o'clock, P. M. Fifteen hundred and fifteen vaccinations have thus far been made, a very large proportion of them being primary. The ages of those vaccinated ranged from infancy to middle age.

Only one child so far as known was vaccinated primarily who was attending the public schools, but a large number presented themselves ranging from six to seventeen years of age, who had never been vaccinated, but were attending the Parochial school on Norfolk street.

We think it important that all children attending private schools should be subject to the same regulation in relation to vaccination as those attending the public schools.

If the work of this board is to be carried on as thoroughly and successfully the coming year as it was last year, we shall require an appropriation of at least as large an amount as was given us this year, namely, thirty-five hundred dollars.

Reference to the tabulated statement of the number of cases of scarlet fever, diphtheria, and typhoid fever, shows quite a large decrease from last year, the total number in 1884 being 810, against 672 for this year. The number of deaths from scarlet fever and typhoid fever last year was 53, against 36 for this year, and the number of deaths from diphtheria for this year was 65, against 41 for last year, although the number of cases of this disease was considerably less than in 1884.

We call the attention of your honorable body to the number of deaths occurring during the year, tabulated, classified, and appended to this report.

D. H. THURSTON,
H. P. WALCOTT,
GEORGE F. PIPER. } *Board of Health.*

APPENDIX.

Causes of Death in 1885.

CLASSIFIED ACCORDING TO THE NOSOLOGY ADOPTED IN THE REGISTRATION REPORTS OF MASSACHUSETTS.

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Zymotics.													
Scarlet Fever	5	4	3	2	....	1	1	....	....	1	4	2	23
Diphtheria	9	2	9	6	3	3	3	2	7	9	8	5	66
Measles	1	....	1	1	3	.. .	1	1	....	....	....	....	8
Croup	2	2	3	2	2	2	....	1	3	1	1	2	21
Whooping Cough	....	....	....	....	2	....	2	1	....	1	....	....	6
Typhoid Fever	2	....	....	....	1	....	....	2	3	3	....	1	12
Erysipelas	....	2	....	1	1	....	....	....	....	....	....	....	4
Metria	1	....	....	2	....	....	....	1	....	1	....	....	5
Dysentery	....	....	1	....	....	....	1	1	1	1	....	....	5
Diarrhœa	....	2	....	....	....	....	....	2	2	2	4	....	12
Cholera Infantum	....	....	....	....	1	2	30	32	10	....	....	....	75
Cholera Morbus	....	....	....	....	....	....	1	1	1	....	....	....	3
Rheumatism	1	....	1	....	1	....	1	....	....	....	....	....	4
Cerebro-Spinal Meningitis	....	....	....	....	....	....	....	....	1	....	....	....	1
Congestive Chill	....	....	....	....	....	....	....	....	....	1	....	....	1
Septicæmia	...	2	....	....	....	....	....	....	....	....	....	2	4
Tonsilitis	1	....	....	....	....	....	.. .	....	....	....	....	....	1
Constitutional.													
Purpurea Hemorrhagica	....	....	....	....	....	....	....	1	....	....	....	....	1
Alcoholism	....	....	1	....	....	....	1	1	....	....	....	....	3
Dropsy and Anæmia	....	1	1	....	1	1	....	....	1	1	2	1	9
Mortification	....	1	....	1	1	....	....	1	....	....	....	....	4
Cancer	5	4	3	6	1	5	4	1	....	5	3	2	39
Phthisis	16	20	20	13	19	18	9	11	14	12	21	16	189
Hydrocephalus	....	....	1	....	....	....	1	1	1	....	....	1	5
Tabes Mesenterica	3	....	....	1	....	....	....	....	....	1	2	2	9
Scrofula	....	....	....	....	....	1	....	....	....	....	....	....	1

Causes of Death in 1885.—Continued.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Local.													
Sunstroke	....	....	....	....	....	....	1	....	....	...	....	....	1
Meningitis	4	5	2	7	3	7	4	6	8	3	2	3	54
Apoplexy	4	1	3	5	2	2	4	2	1	....	4	3	31
Paralysis	8	3	....	1	2	4	1	1	....	2	2	6	30
Insanity	....	....	....	1	....	2	....	....	....	....	....	....	3
Convulsions	2	3	....	2	1	1	3	3	....	1	....	3	19
Brain Diseases	2	....	2	1	4	....	1	1	1	1	1	....	14
Epilepsy	1	....	1	....	....	....	....	....	....	....	1	....	3
Tetanus	....	....	....	....	....	....	....	....	....	1	...	....	1
Pericarditis	1	....	....	1	....	....	....	....	....	1	....	....	3
Heart Diseases	7	10	10	8	7	6	6	6	7	4	3	8	82
Laryngitis	1	1	....	....	....	....	....	....	....	1	....	1	4
Bronchitis	4	8	3	8	2	6	4	4	4	5	1	5	54
Pleurisy	1	....	....	....	....	2	....	1	1	....	1	....	6
Pneumonia	15	13	23	19	15	10	5	5	4	6	7	11	133
Asthma	1	....	....	1	....	....	....	....	....	2	1	1	6
Lung Diseases	1	1	....	....	....	....	1	1	2	2	....	1	9
Gastritis	....	....	1	....	1	....	....	....	....	....	....	....	2
Enteritis	1	1	....	....	....	....	....	2	....	....	....	....	4
Peritonitis	1	1	2	1	1	1	....	1	1	....	1	....	10
Hemorrhage from Bowels	....	....	....	....	....	....	....	....	....	....	....	1	1
Occlusion of Intestines	1	....	1	3	....	....	....	1	1	....	....	1	8
Stomach Disease	....	1	....	....	....	1	....	....	....	...	....	....	2
Jaundice	....	....	....	....	....	....	1	....	....	....	....	1	2
Liver Diseases	1	....	....	....	2	1	1	1	1	....	1	1	9
Nephritis	1	1	....	....	2	1	1	....	....	....	1	....	7
Bright's Disease	2	1	2	2	2	....	5	2	1	2	4	4	27
Diabetes	....	....	....	....	....	....	1	....	....	1	....	2	4
Cystitis	1	1	....	....	1	....	....	....	....	....	....	1	4
Kidney Diseases	....	....	....	1	....	....	....	....	....	1	....	....	2
Disease of Uterus	....	....	....	....	....	....	2	....	....	1	....	....	3
Cellulitis	....	....	....	1	1	....	1	....	1	1	....	....	5
Eczema	...	....	1	....	....	....	....	....	....	....	....	....	1
Tumor	....	....	1	....	....	1	....	....	....	2	....	....	4

Causes of Death in 1885.—Continued.

Diseases.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Developmental.													
Stillborn	5	3	11	7	5	5	5	6	8	13	6	5	79
Premature Birth and Infantile Debility	2	3	7	7	3	4	7	10	4	9	2	10	68
Cyanosis	....	....	....	....	....	....	....	1	....	....	3	....	4
Spina Bifida	....	....	....	....	....	....	..	....	....	1	....	....	1
Other Malformations	....	....	....	....	....	....	....	1	....	....	....	....	1
Teething	....	....	....	....	....	....	1	....	....	...	....	1	2
Umbilical Hemorrhage	....	....	....	....	1	....	....	....	....	....	...	....	1
Umbilical Phlebitis	....	....	1	....	....	....	....	....	....	....	....	....	1
Childbirth	....	....	....	....	....	....	1	1	....	1	....	....	3
Hemorrhage	....	....	...	....	1	....	....	....	1	....	....	....	2
Old Age	2	5	5	2	2	1	4	2	3	2	4	4	36
Atrophy and Debility	....	....	3	...	3	2	....	....	2	....	1	1	12
Violent.													
Burns and Scalds	1	1	....	....	....	....	2	....	....	....	....	....	4
Drowning	....	....	....	1	1	....	2	....	....	...	....	....	4
Other Casualties	....	....	....	....	3	1	2	2	2	1	....	1	12
Poison	....	1	....	....	....	....	..	....	....	....	....	....	1
Murder	....	....	....	....	....	....	....	....	1	....	....	....	1
Suicide	....	....	1	1	1	....	1	1	....	2	....	....	7
Unknown	....	2	....	3	1	1	2	2	....	3	....	4	18
Totals	117	105	125	118	102	92	125	122	98	108	91	113	1,316

Cases of Scarlet Fever, Diphtheria, and Typhoid Fever, reported to the Board of Health for the Year 1885.

Name of Disease.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Scarlet Fever	63	44	46	33	18	18	20	9	23	40	49	34	397
Diphtheria	24	17	25	14	17	13	13	4	12	33	26	13	211
Typhoid Fever	7	5	3	1	3	1	....	11	11	12	4	6	64
Totals	94	66	74	48	38	32	33	24	46	85	79	53	672

REPORT

OF THE

SUPERINTENDENT OF LAMPS.

To the Honorable City Council of the City of Cambridge:—

THE undersigned respectfully submits his annual report as Superintendent of Lamps for the year ending Nov. 30, 1885.

The amount appropriated for lighting streets was $33,000.00.

The amount expended was as follows:—

For Gas	$20,283.72	
Care of Lamps, and lighting	7,852.32	
Posts and lanterns	1,265.11	
Repairs	521.08	
Lamps in Belmont District	114.13	
Labor, pipe, and fittings, Gas Company	490.48	
Torches	32.73	
Alcohol	199.10	
Kerosene and matches	323.81	
Carriage accident	44.00	
Carriage-hire, Committee on Lamps	13.00	
Ladders	57.00	
Kerosene burners, chimneys, and wicking	98.75	
Union Glass Company, founts	60.15	
Castings	14.72	
Gas-burners	27.63	
Glass	72.50	
Stone guards	42.30	
Sundries	19.26	
Printing	19.50	
Lamp-post cocks and couplings	67.78	
Superintendent's Salary	650.00	
		$32,269.07
Unexpended balance of appropriation		$730.93

Cash collected for damages to posts and lanterns, and paid into city treasury, $30,00, which deducted from the amount expended, leaves the actual cost of the department $32,239.07.

The cost per lamp for all expenses of the department was $30.64\frac{1}{2}$.

The total number of street lamps now lighted by the city is 1,058, distributed as follows: —

District 1	123 gas,	30 kerosene.		
" 2	128 "	26 "		
" 3	109 "	41 "		
" 4	155 "	5 "		
" 5	127 "	26 "		
" 6	139 "	16 "		
" 7	113 "	20 "		
	894	164		
			1,058	

The increase for the current year is 105, of which number 31 have been furnished by petitioners, 3 jointly by petitioners and the city, and the remaining 71 by the city.

The lamps have been lighted on 337 nights during the year, and have been burned for 2,806,171 hours, consuming 11,224,684 feet of gas, and burning an average of $3,149\frac{1}{2}$ hours per lamp, an average of $9\frac{1}{3}$ hours each night, the lowest number of hours being 7, the highest 13.

The average cost of each lamp has been $6\frac{3}{4}$ cents per night for gas, and 2 cents per night for kerosene.

The expense of the department has been somewhat lessened by a further reduction in the price of gas. On the 1st of July, 1885, the price of gas for the street lamps was reduced from $1.90 to $1.65 per thousand feet. This reduction to Nov. 15, 1885, four and one-half months, amounting to $1,040.73, has enabled the committee on lamps to recommend the erection of lamps in various parts of the city where they were much needed, and authority has been granted at various times by the City Council, to locate lamps at the city's expense, and the amount thus saved by reduction in gas, has been used for this purpose.

Additional light is still required in all parts of the city, not only for the safety of travellers, and as an aid to the police force, but to render our city a desirable place of residence.

Until the time arrives for Cambridge to adopt the electric light to illuminate our streets, authority should be given to the committee to erect lamps in such parts of the city as in its judgment require better lighting.

In this connection I would call attention to the following extract from my report for last year: —

"In addition to a wider distribution of the street lamps, many citizens call for a more powerful light, and look with longing eyes upon the electric lights now in use in many of our large cities. While this is very desirable as a means of lighting our streets, in my opinion the expense of maintaining it will for many years prove to be an insuperable objection to its general use.

"The cost of maintaining an electric light in Boston is fifty-six cents per night, and each light takes the place of two gas-lamps which are located about 150 feet apart, in the business parts and thickly settled portions of the city; while the average distance between the lights on the business streets of Cambridge is 200 feet. If Cambridge should adopt the electric light, it will certainly require at least one electric light for every two gas lights displaced. The cost of maintaining a gas light is about eleven cents per night for gas and care; consequently the adoption of the electric light would involve, so far as it might be substituted for gas, an increased expenditure in this department of almost three times the present cost. While we should get a much better light, I am of the opinion that it is the wiser course to extend our present means of lighting more widely before we incur this extra expense."

On the first of August, 1885, the lamps in the Belmont District, which up to that time had been lighted with naphtha, by contract with the Globe Gas Light Co., were placed in charge of the superintendent to be lighted with kerosene, it having been determined by fair trial that kerosene would give a better light at less cost; and the result thus far has been satisfactory.

In my report for 1883, I called the attention of the City Council to the fact of there being no street signs in the lanterns for the guidance of our citizens and strangers, and suggested that measures should be taken to supply the deficiency. The street department, whose duty it is to supply the signs, has been en-

gaged in this work during the year on the principal streets, and I understand that it is the intention to continue it until all the streets are provided with signs.

Since the signs have been placed in the lanterns, many of them have been stolen and the lanterns broken. This mischief has occurred mostly in Ward One, and I have reason to believe that it has been committed by large boys on their way to and from school, and young men who have graduated from school. It is to be deplored that the influence of our High School and College cannot restrain this propensity for mischief.

The force of the department has been increased by the employment of two additional lighters, and the city has been laid out into seven districts, two men being assigned to each district, giving in charge to each man an average of seventy-six lamps.

In conclusion, I tender my acknowledgments to the committee on lamps for advice and assistance during the year.

Respectfully submitted,

B. F. NOURSE,

Superintendent of Lamps.

REPORT

OF THE

SEALER OF WEIGHTS AND MEASURES.

To the Board of Mayor and Aldermen of the City of Cambridge:—

GENTLEMEN:—In connection with the Deputy Sealer, and in the performance of our duty, I have visited during the year ending Nov. 30, 1885, three hundred places where scales, weights, and measures are used and have

Sealed	845 scales.	Adjusted	57
"	3244 weights.	"	46
"	27 dry measures.	"	6
"	128 liquid measures.	"	10

The city scales in various parts of the city have been sealed, repaired, and adjusted. Office work, which has increased considerably in amount, and for which no fee is charged, has been attended to.

The fees collected, amounting to $276.83, have been paid into the city treasury.

The State and City property in possession of the Sealer is in good condition, and remains the same in detail as last year.

Respectfully submitted,

B. F. NOURSE,

Sealer of Weights and Measures.

REPORT

OF

THE INSPECTOR OF MILK,

From Nov. 30th, 1884, to May 12th, 1885.

To the Honorable the Mayor and City Council of Cambridge:—

I herewith submit my report as Milk Inspector for that part of the year ending May 12th, being at that time relieved by the appointment of a chemist, on recommendation of the Board of Health.

During the period above named I performed the usual duties in connection with the office, visiting the stores and dealers in person, inspecting the quality of milk sold and licensing the dealers as required by law. During this time I received as license fees $41.50. The property of the office was then transferred to my successor, consisting of one silver badge, one door plate, one lactometer, cream glasses, books, papers, etc., etc.

In closing my connection with the city as Milk Inspector, I return my sincere thanks for the kind consideration that was always shown me in the discharge of my duties, and I can assure the citizens that my endeavors were honestly and faithfully employed for their benefit and protection, and I cannot close without extending my heartfelt thanks to the dealers who kindly aided me (during my six years of service) in every way possible to bring about that reform in the business which is necessary for the mutual protection of the dealer as well as consumer.

Respectfully submitted,

JOHN H. FARRELL,

Milk Inspector.

Cambridge, Nov. 30th, 1885.

REPORT

OF

THE INSPECTOR OF MILK,

FROM MAY 12TH, TO DEC. 1ST, 1885.

To the Honorable Mayor and Board of Aldermen of Cambridge:

GENTLEMEN: — I beg to submit the following report of my office from May 12th, the date of my appointment, until Dec. 1st.

The work consists in licensing the milk dealers of the city, and collecting and analyzing samples of the milk offered for sale by them, those found selling milk of a poorer quality than allowed by the statute, being induced to raise their milk to the required standard, by means of warnings and prosecutions.

Soon after beginning the work of the office, the Chief of Police gave me great assistance by furnishing me with the name and address of every one selling milk in the city. These names were compared with those already recorded in my books as licensed to sell milk, and to those not thus recorded a postal notice was sent, calling their attention to the omission. The result of this comparison was to show that out of 436 persons reported to me as selling milk, 164 were selling it without any license. Of the persons so notified 102 have since been licensed I have collected in all from licenses and registrations the sum of $89.00, which I have turned over to the City Treasurer.

I soon found that I was unable by myself to collect and analyze a sufficient number of samples of milk to carry on the work of inspection with even a moderate degree of efficiency, and on reporting the same to the Mayor, he kindly asked the Chief of Police to detail an officer to collect samples for me. This proved

a very important assistance, and enabled me to analyze nearly twice as many samples as previously. The method of analysis is the same as that followed by the Boston Inspector. The samples are collected in numbered pint cans, and to each can as it is filled is tied a tag, numbered to correspond with the can, and marked with the name and address of the dealer furnishing the milk, the date at which the sample was collected, the contract price, and if the sample is obtained from a store, the name of the milkman who supplies that store. The cans are then brought up to the laboratory, where th especific gravity and percentage of fat are determined, by means of a lactometer and Fesser's lactoscope. Any samples which do not exceed a specific gravity of 1.030 as shown by the lactometer, and 3 per cent of fat as shown by the lactoscope, are set aside for analysis. Those samples which do exceed these proportions I have found, by analysis and by comparing my results with those obtained by Dr. B. F. Davenport of Boston, are nearly sure to give 13 per cent of milk solids, as required by the statute.

From each can set aside for analysis, 5 grammes of milk are now weighed out into a flat-bottomed platinum dish, previously balanced on a pair of Troemner's scales, which are delicate to the $\frac{1}{4}$ 0.001 gramme. The milk is now evaporated to apparent dryness on a water bath, and then completely dried in a drying oven, kept at a constant temperature of about 105° centigrade. It is then weighed, and from this weight is found the total amount of milk solids. Placed again on the water bath, it is filled with freshly distilled naphtha, which quickly begins to boil, and when nearly evaporated is poured off. Three boilings generally completely remove the fat, after which the dish is rinsed inside and out with naphtha, and again placed in the drying oven. When perfectly dry, it is weighed, and this weight subtracted from the former gives the amount of fat in the sample. The dish is then heated to redness, until the organic portions of the milk are entirely burnt off, and on weighing the residue the amount of ash is obtained. From these data the percentages of the following constituents of the milk are calculated, which for ordinary cases gives all that is required: — total milk solids, fat, solids not fat, ash, water, added water. This is an outline of the process employed, and any one wishing further de-

tails is referred to the 26th annual report of the Boston Milk Inspector, where a very full account of the process is given.

To any dealers found selling milk of a poorer quality than allowed by the statute, a printed notice is sent warning them that the selling of such milk renders them liable to prosecution, and if on again analyzing samples collected from them no improvement is found, such dealers are prosecuted. I have collected during the past six months 430 samples of milk, taken from stores and milk wagons all over the city. Of these samples 178 were found on testing with the lactometer and lactoscope to be certainly of the required quality. The remainder, 232, were subjected to analysis, of which 102 were found to fall below the required 13 per cent of milk solids, and to the persons from whom these specimens were procured, notice was sent that they were selling poor milk. Of the first 50 samples I was obliged to analyze 43, and to send warnings to 23 dealers. Of the last 50 I have analyzed but 15, and sent only 6 warnings. No cases have yet been taken into the courts for prosecution.

As a result of this inspection, I have found that the milkmen are selling as a rule the best milk, while the small stores, which sell only a few cans a day, have milk which varies greatly in quality, but is generally poorer than that sold by the milkmen. One of the principal reasons of this variation and generally poor quality of the milk sold by the stores, is, that a customer is ordinarily supplied with milk from the can just as it stands, without previously shaking it up, or it is only shaken when first opened. Consequently most of the cream is poured off with the first few pints sold, and by the time the can is half empty its contents are little better than skim milk. Moreover, the stores sell milk from one to two cents cheaper than the milkmen, and must therefore use a poorer article, or else sell without any profit, or even at an actual loss.

I beg to call attention to the fact that no provision has been made for fitting up the laboratory, and that I have been obliged to carry on the work by means of a few instruments, either supplied by myself or loaned me by Dr. Holt, many of these being but poorly suited to the work, and only made to do duty until a proper supply can be obtained.

I would therefore earnestly beg that a sufficient appropriation be made the coming year for the purchase of the necessary instruments, in order that the work may be carried on in an efficient manner, and not cramped from a lack of the necessary means. For this purpose I think the sum of $125 would be sufficient.

Respectfully,

F. A. DUNBAR, M. D.,

Milk Inspector.

Dec. 1st, 1885.

APPENDIX.

The following one hundred analyses are taken as showing some of the poorest and some of the best milk analyzed. The specimens were all collected within the last six months and were all sold as pure milk, the dealers nearly always expressing great surprise when notified that they were selling milk below the standard. A comparison of the specific gravity as shown by the lactometer, with the result of the full analysis, will make it apparent that the lactometer by itself furnishes but little indication of the composition of the milk:—

Table of Analysis.

No. of Analysis.	Total Milk Solids.	Fat.	Solids not Fat.	Ash.	Water.	Additional water.	Specific Gravity.
1	12.66	2.74	9.92	0.64	87.34	2.61	1.036
2	10.50	1.80	8.70	0.66	89.50	16.91	1.030
3	11.00	2.16	8.84	0.62	89.00	15.37	1.031
4	11.76	2.86	8.90	0.58	88.24	9.53	1.030
5	12.48	3.22	9.26	0.58	87.52	4 00	1.032
6	10.68	1.12	9.60	0.64	89.32	17.84	1.034
7	11.70	2.26	9.44	0.62	88.30	10.00	1.031
8	12.46	3.34	9.12	0.60	87.54	4.15	1.031
9	8.68	1.34	7.34	0.50	91.32	33.23	1.026
10	12.00	2.48	9.62	0.56	88.00	7.96	1.030
11	15.32	6.38	8.94	0.56	84.68	0.00	1.026
12	10.48	2.38	8.00	0.54	89.52	19.38	1.031
13	13.23	3.98	9.24	0.62	86.77	0.00	1.032
14	12.00	2.94	9.06	0.66	88.00	7.96	1.032
15	13.56	3.14	10.42	0.76	86.44	0.00	1.033
16	11.28	2.85	8.43	0.54	88.72	13.23	1.032
17	12.38	3.02	9.36	0.64	87.62	4.77	1.030
18	13.40	3.00	10.40	0.60	86.60	0.00	1.033
19	11.80	2.76	9.04	0.50	88.20	9.23	1.027
20	11.10	2.42	8.68	0.50	88.90	14.61	1.032
21	10.86	1.54	9.32	0.56	89.14	16.46	1.033
22	11.02	2.08	8.94	0.52	88.98	15.23	1.032
23	13.24	3.94	9.30	0.58	86.76	0.00	1.031
24	11.96	3.16	8.80	0.58	88.04	8.00	1.030
25	11.12	1.44	9.68	0.64	88.88	14.46	1.030
26	12.46	3.10	9.36	0.50	87.54	4.15	1.035
27	12.22	3.16	9.06	0.62	87.78	6.00	1.036
28	7.92	1.60	6.32	0.36	92.08	46.76	1.026
29	11.64	2.60	9.04	....	88.36	10.40	1.030
30	10.46	0.44	10.02	0.64	89.54	19.53	1.035
31	12.46	3.06	9.40	0.54	87.54	4.15	1.032
32	12.06	2.66	9.40	0.54	87.94	7.23	1.032
33	12.56	3.32	9.24	0.42	87.44	3.08	1.032
34	10.66	1.90	8.76	0.48	89.34	18.00	1.032
35	13.28	4.16	9.12	0.42	86.72	0.00	1.032
36	12.12	3.78	8.34	0.50	88.88	6.77	1.028
37	12.32	2.98	9.34	0.60	87.68	5.25	1.032

Table of Analysis.—Continued.

No. of Analysis.	Total Milk Solids.	Fat.	Solids not Fat.	Ash.	Water.	Additional Water.	Specific Gravity.
38	10.08	1.54	8.54	0.44	89.92	22.46	1.032
39	10.00	1.88	8.12	0.52	90.00	23.07	1.030
40	12.08	2.90	9.18	0.68	87.92	7.07	1.032
41	11.14	2.26	8.88	0.40	86.86	14.31	1.032
42	11.78	2.38	9.40	0.56	88.22	9.38	1.031
43	12.06	2.60	9.46	0.50	87.94	7.23	1.031
44	11.06	3.04	8.94	0.58	88.02	7.85	1.027
45	10.50	2.94	7.56	0.44	89.50	19.23	1.027
46	10.86	2.96	7.90	0.56	89.14	16.46	1.034
47	11.90	2.74	9.16	0.62	88.10	8.46	1.030
48	11.86	2.80	9.06	0.60	89.14	8.77	1.035
49	11.34	2.28	9.06	0.54	88.66	12.77	1.032
50	10.86	1.25	9.61	0.46	89.14	16.46	1.032
51	12.00	2.94	9.06	0.61	88.00	7.69	1.032
52	12.06	3.00	9.06	0.60	87.94	7.23	1.033
53	12.86	3.72	9.14	0.60	87.14	1.07	1.030
54	12.14	3.10	9.04	0.64	88.86	6.61	1.032
55	10.60	2.28	8.32	0.48	89.40	18.46	1.031
56	10.90	2.18	8.72	0.56	89.10	16.15	1.031
57	.....	....	....	....	....	....	....
58	10.76	2.88	7.88	0.56	89.24	17.23	1.028
59	9.26	1.68	7.58	0.58	90.74	29.46	1.028
60	10.02	2.12	7.90	0.46	89.98	22.99	1.067
61	11.10	2.18	8.92	0.56	88.90	14.61	1,031
62	9.04	1.74	7.30	0.50	90.96	30.46	1.028
63	12.02	2.25	9.77	0.52	87.98	7.54	1.023
64	8.00	2.30	5.70	0.42	72.00	38.46	1.023
65	9.92	1.75	8.17	0.52	90 08	23.69	1.035
66	9.70	2.44	7.26	0.52	90.30	25.38	1.026
67	10.50	2.00	8.50	0.60	89.50	19.24	1.032
68	11.96	4.12	7.84	0.60	88.04	8.00	1.026
69	12.48	3.20	9.28	0.70	87.52	4.00	1.033
70	11.76	2.80	8.96	0.60	88.24	9.54	1.032
71	12.56	3.20	9.36	0.56	87.44	3.38	1.031
72	15.04	6.34	8.70	0.58	84.96	0.00	1.030
73	10.86	2.54	8.32	0 56	89.14	16.46	1.030
74	13.36	4.12	9.24	0.66	86.64	0.00	1.034
75	12.66	3.50	9.16	0.60	87.34	2.61	1.034
76	12.38	3.58	8.80	0.64	87.62	4.76	1.033
77	12.54	3.96	8.58	0.50	87.46	3.54	1.033
78	17.04	9.74	7.30	0.48	82.96	0.00	1.025
79	11.60	2.68	8.92	0.60	88.40	10.76	1.033
80	13.10	4.40	8.76	0 64	86.84	0.00	1.031
81	13.30	4.74	8.56	0.62	86.70	0.00	1.031
82	11.70	3.30	8.40	0.62	88,30	10.00	1.035
83	12.00	4.00	8.00	0.58	88.00	7.69	1.030
84	11.30	2.56	8.74	0.60	88.70	13.07	1.033
85	12.70	3.12	9.58	0.68	87.30	2.30	1.035
86	12.04	3.52	8.52	0.62	87.96	7.38	1.033
87	12.74	2.80	9.94	0.50	87.26	2.00	1.027
88	12.96	3.72	9.28	0.58	87.04	0.30	1.034
89	11.36	1.60	9.76	0.56	88.64	12.61	1.033
90	12.10	3.46	9.64	0.68	87.90	6.92	1.032
91	10.24	2.66	7.58	0 50	89.76	21.23	1.028
92	13.60	4.00	9.60	0.70	86.40	0.00	1.035
93	13.48	2.62	10.86	0.68	86.52	0.00	1.035
94	12.74	3.36	9.38	0.68	87.26	2.00	1.034
95	9.80	2.00	7.80	0.62	90.20	24.61	1.028
96*	49.36	42.96	6.40	0.32	42.96		1.018
97	13.06	3.84	9.22	0.70	86.94	0.00	1.034
98	13.30	4.06	9.24	0.64	86.70	0.00	1.035
99	12.42	3.78	8.64	0.64	87.58	4.48	1.032
100	13.18	3.56	9.62	0.66	86.82	0.00	1.034

* Cream.

REPORT

OF

THE INSPECTOR OF VINEGAR.

To the Honorable the Mayor and City Council of Cambridge:—

My sixth annual report as Vinegar Inspector is herewith submitted.

The quality of this article as sold in our city continues of average good quality, although in certain sections of the city a poorer grade is often sold at low prices to correspond with inferior commodities offered for sale in those places.

Many samples were collected, and many were brought for inspection to the office during the year by dealers who are anxious to know the exact quality they are buying and wish to conform to the law.

The vinegar law has worked a radical change in the vinegar market in this State and in other States where a similar law has been enacted, and by this wise legislation our people are properly protected against various poisonous compounds, that have been for years retailed to them as an article of food, and for this reason dangerous to life and health.

Thanking you for kind recognition in the discharge of my duties, I am

Very respectfully yours,

JOHN H. FARRELL,

Inspector of Vinegar.

CAMBRIDGE, NOV. 30th, 1885.

REPORT

OF

THE SCHOOL COMMITTEE OF 1885.

THE School Committee for 1885 respectfully submits this as its annual report.

Near the close of the year occurred the death of one of our number, Garrett E. Nagle, Esq., a member from Ward One. At the time of his decease he had nearly completed a service of two years. His death was sudden and unexpected, and every member of this board felt that he had lost an agreeable associate, and the city a faithful and conscientious servant. His pleasant manner and courteous bearing were always welcome at the meetings of the board. In his character there was neither affectation nor dissimulation. Envy and pride found no place in his generous heart. His memory we shall cherish as that of one we had come to respect.

In the work of the schools during the year that has just closed there has been nothing that calls for special mention. Teachers and pupils have been faithful and painstaking, and the committee have found their labors neither troublesome nor exacting. No epidemic of sickness has prevailed in our city to interfere with the attendance of the pupils in the schools, and their attainments have been equal at least to those reached in former years.

The enactment of a law requiring cities and towns of this commonwealth to furnish the pupils of the public schools with text books to be used by them without charge, has given to our committee on supplies a large amount of perplexing work. The purchase of $14,000 worth of school books from anxious and importuning publishers could not be done in a haphazard manner, if the interests of the city were properly protected. To prove that this work has been done prudently and with rare tact and econ-

omy by this sub-committee, requires no statement from us. The complaints of the publishers themselves are sufficient.

The increase in numbers in our schools during the past year has been 589, against 165 in 1884. This is nearly double that of any previous year. Probably the introduction of free text books had quite as much influence in bringing about this unusual increase as the natural growth of the city. To accommodate 589 additional pupils in the present school buildings, in many cases, over-crowded, has been no easy task.

The High School.

Of these 589 new pupils, 78 were added to the High School, making its number in 1885, 552. For several years this school has been filled to overflowing. This made it necessary at the opening in September to colonize from 50 to 100 pupils in the hall and adjacent recitation rooms of the Harvard Grammar School, much to the inconvenience as well as disadvantage of that school. This year, with over one hundred colonized, it has been very difficult properly to accommodate the 440 remaining in the present High School building. When this building was built in 1864 it was designed to accommodate about 300 pupils. Of course, under such circumstances, the efficiency of the school has been materially interfered with, and the general sanitary condition of the building has been far from satisfactory. It should be said, however, that this crowded and unsanitary condition of the school would some time ago have been remedied by the City Council had not the city debt been so large that the practice of the most rigid economy by every department of the city was necessary.

The following table shows the number of pupils in the High School each year from 1864 to the present time: —

Table showing number of pupils in High School from 1864 to 1885, with increase or decrease in numbers each year.

Year.	Whole number.	Increase.	Decrease.
1864	218	19	..
1865	267	49	..
1866	281	14	..
1867	296	5	..
1868	308	12	.
1869	273	..	35
1870	286	13	..
1871	334	48	..
1872	340	6	..
1873	363	13	..
1874	405	42	..
1875	409	4	..
1876	424	15	..
1877	490	66	..
1878	501	9	..
1879	476	..	24
1880	475	..	1
1881	454	..	21
1882	430	..	24
1883	429	..	1
1884	479	50	..
1885	552	73	..

Early in the beginning of the school year of 1884 our board took up the subject of providing additional accommodations for the High School, and many plans for enlarging as well as dividing it were considered. Evening after evening was spent in discussing them, and they were considered from every conceivable standpoint. At last, after nearly an entire year had been given

to this subject, the plan for a division of the school into an English and a college preparatory department, was finally adopted by a decisive vote. It is not necessary here to enumerate all the arguments that brought about this result, but it may be well to state that it was not that the classical department might be improved, for that has always been eminently satisfactory, but that the English department might be enlarged and strengthened, and that those boys who desired to be fitted for the Institute of Technology, or for business, and those girls who desired the necessary training to become teachers, should have just as much time and attention bestowed upon them as those who were preparing for college. After this decision had been reached in our board it was communicated to the City Council, which referred it to a special committee, when the whole matter was again thoroughly and critically considered. The result was that this committee unanimously reported in favor of this division and their report was accepted and adopted by both the Board of Aldermen and the Common Council. To carry out this plan it was necessary to procure an additional building that would accommodate from 150 to 200 pupils. At this time the Cambridge Savings Bank was seeking a purchaser for the Lee-Street church. This building seemed well fitted for the college preparatory department of the school, and accordingly it was purchased by the city at a very moderate cost. The necessary repairs and alterations were soon begun and are now nearly completed. By March next it is expected that the building will be ready to be occupied and that at that time the school will be divided. The schools thus established will be called "The Cambridge English High School," and "The Cambridge Latin School." When this division has been made the present building will be well filled by the English Department. If during the next few years there is any great increase in numbers, the question of additional accommodation for this department will have to be considered, and perhaps it may then seem best to separate the girls from the boys: the boys to remain in the present building, which has the advantage of having a large lot of land where, if industrial education comes to be a part of our common school system, workshops could easily be erected, the girls to occupy a new building which could be placed not far from the present one.

Since the establishment of a High School for the whole city in 1854, on Amory Street, the city has annually received from the trustees of the Hopkins fund a sum varying with different years, averaging the last ten years a little over $800 a year. This is in accordance with an agreement between the city of Cambridge and these trustees, whereby the city agrees "to receive into the High School and admit to all privileges and advantages thereof, free of expense, any number of boys not exceeding nine at any time who, being properly qualified, shall be selected and presented for admission thereto by the President and Fellows of Harvard College, and the minister of the First Church in Cambridge." The act allowing such agreement to be made passed the general court in 1839. From 1854, when the city began to receive this annual donation, one of the teachers in the High School has been called the "Hopkins Classical Teacher," in honor of Edward Hopkins, from whose estate the funds were originally received.

The Grammar Schools.

In the opinion of the committee all the large Grammar School buildings where the urinals and water closets have been placed in the cellars, are at the present time more or less unsanitary because of their defective ventilation. Undoubtedly it is better, if expense and health are both to be considered, to place the urinals and closets in a separate building at a considerable distance from the school-house. But it often happens that the school-yard is not large enough to allow this to be done, as such buildings, by their nearness to dwelling-houses, would be offensive to the eye, and it becomes necessary, therefore, to have them in the cellar of the school building. When they are located here the best appliances that modern sanitary knowledge can supply are neither too expensive nor too great a luxury. During the past year the vaults and urinals of the Allston Grammar school building have been condemned by the Board of Health of our city. Our Committee of Estimates has already recommended to the City Council the expenditure of $2,000, to put in their place the system now being introduced into the new part of the Webster School-house and the Latin School-house on Lee Street. This system, although expensive and requiring the best material and workmanship in its construction, when it has been properly

and thoroughly established, has everywhere been entirely satisfactory, requiring little, if any, repairs for a long term of years. We believe the introduction of this system to be one of the most important steps ever taken to improve the sanitary condition of our large school buildings.

In the past the general plan of our large buildings for both Grammar and Primary schools has been the three-story square building, with four rooms upon each floor, making twelve school-rooms in all. In whatever position such a building is placed, one room upon each floor is necessarily wholly or nearly deprived of sunshine all parts of the day and all times of the year. By such a construction it is also impossible to get a very free circulation of air in every part of the school rooms. With a building constructed in the main upon this same plan, but with the rooms on the north-west corner wanting upon each story, — making a building of nine rooms instead of twelve, every room will have ample sunshine and, opposite sides of the rooms being exposed, a free circulation of air. This plan of a building for grammar schools, while a little more expensive in proportion to the number of scholars it will accommodate, is so much more easily supplied with fresh air and a proper amount of sunlight, that the additional expense is not for a moment to be considered, as greater health is thereby secured to the pupils.

There is another disadvantage that arises from these large twelve-room buildings with from 500 to 600 pupils. They are too large for a master without a sub-master, and too small in point of numbers for two male teachers. A nine-room building with 400 pupils would get on well enough with a single master. The essential point in developing and instructing children is the personality of the teacher. Now, if the master is what we have a right to expect him to be, from the salary he receives, his personal influence should be a great power for good upon the pupils. If this is exerted upon a large number only as an overseer of the ten or twelve female teachers under him, it is a flagrant waste of the city's money. The school should be so small and compact that nearly all the master's time can be given to the teaching of the first class. These suggestions concerning the size of our grammar school buildings and the best methods for ventilating the urinals and water closets when they

are placed in the cellars, we earnestly commend to the City Council and to all who are interested in the health of our school children.

The Primary Schools.

Having alluded to the condition and construction of the buildings of the grammar schools, it may be well to enquire into the general sanitary condition of those used for our Primary schools. Any thoughtful person, whether from the higher or lower walks of life, if he looks at the Gore and Willard on the one hand, and the Lowell and Wellington on the other, must be struck with the radically different kind of building, in the two instances, provided for our young and tender primary school children. It is not using too strong language to say that the Gore and Willard buildings represent nearly everything that is bad and unsanitary in the whole range of school-house construction. They are large buildings, three stories, with small school rooms, in many instances heated by direct radiation, and with hardly a single room properly and thoroughly ventilated. The Gore is especially bad. It is without proper playgrounds. It is shut in by large and high buildings which, by their close proximity, keep out sufficient air and sunlight. It has improper stairs, halls and dressing-rooms, and without doubt the worst planned and the poorest constructed system of ventilation for its urinals and water closets, which are in the cellar, that could possibly be devised. Now let us compare these, the Gore and the Willard, but the Gore especially, with the Lowell and Wellington. The latter are four and nine-room buildings, the Wellington having but one room in a third story. Their school-rooms are large, with the perfection of exposure and sunlight, commodious halls and convenient dressing-rooms, stairs upon the northerly and westerly sides, both broad and wide, with easy rise, cellars light and wholesome, the urinals and privies in the yard in separate buildings well away from the school-house, and no high buildings in close proximity; — in fact, possessing almost everything that goes to make up a model of an inexpensive but convenient and healthful primary school-house. Now why should there be this great difference between these school buildings? Are the children in one part of our city less worthy of our care and attention than those in another?

Is their health or comfort less to be considered by us? Not by any means. It is because the Gore and Willard were built when it was considered just as well and a great saving of money to build large buildings, so as to bring under one roof a large number of pupils, the theory being that in that way they might be more cheaply as well as more easily taught. It was not well understood how difficult it is properly to ventilate and make healthful such large buildings. Neither was it understood that where so many scholars are brought together the teaching is much more likely to be of a routine character, the individuality of the pupil being lost and the vital part of the school work entirely misconceived.

Our primary school buildings, which have been built within the past few years, are all that can be desired. They are small, inexpensive, do not bring too many children together under the same roof, and generally have plenty of yard-room and are away from large and high buildings. We rejoice that the days of these large primary school buildings have gone, and with the present enlightened knowledge of school-house construction, gained by the sad mistakes of the past, are never likely to return. The era that brought such school-houses as the Lowell and Wellington into existence, and made them a pattern for the future, was one well worthy of commemoration. May the School Committee and the City Council never lose sight of these models of inexpensive, convenient and healthy primary school houses.

The following are the reports of our several committees, which are made a part of the report of the full board, according to one of our standing rules: —

Committee on Examination of Teachers.

During the year fourteen teachers were nominated to positions in the Primary and Grammar schools. They were carefully examined by the committees and were confirmed by the full board.

The work of this committee has been done with care. It has taken much time to make the necessary examinations. It is, however, very evident that the tone and efficiency of the schools are improved thereby. We must use care in the selection of

teachers if we would maintain the present excellent standard of our schools; and only such should be employed as will do good work and exert a moral and refining influence upon the pupils. We believe that with our present method we shall, as a rule, secure good teachers, while those who are inefficient and poorly qualified will not find a place upon our roll.

Text Books.

The Committee on Text Books reports that the following books have been adopted for use in the Grammar and Primary schools: —

Harrington's "Graded Spelling Book," Part 1; Powell's "How to Write;" Cowperthwaite's "Business Standard System of Penmanship;" Scudder's "History of the United States;" also, for the teachers' desks, "Lessons on Practical Subjects."

Drawing.

In January, 1885, Miss Balch took charge of this department of school work. She found that while some of the primary schools received occasional lessons in drawing, there was no regular or progressive system in operation. There were good results now and then, but no certainty of such.

There has been manifest improvement since placing this branch of study in all the schools under one general and competent direction. Each primary school has been visited once in three weeks, lessons given in all the classes, and a programme arranged with reference to the manual in use, so that every teacher knows the lesson for each day until the next visit.

The grammar schools have been visited once a month, and lessons given in all grades. Copies of the new edition of the books required have been placed with the upper classes. In these books very much more attention is paid to drawing from objects than in the former edition. The study of objects and the making of drawings from which objects can be constructed, receive the notice due to their recognized importance; and this practical kind of work is of more interest to the children, and will be of more benefit to them in the future than the old method of exclusive flat copying.

The teachers are working faithfully under the present supervision. There is a regularity in the work attempted, and the improvement during the year is evident and satisfactory.

Committee on Music.

The Committee on Music finds little that calls for special criticism in this department of our school exercises, and cheerfully adds its testimony to the earnest and faithful work of the singing master, so characteristic during his long term of service.

In a report made to the committee he states that of the ten school sessions a week, eight are devoted to the grammar schools, leaving only two for the primaries, and those afternoon sessions of two hours each.

In the grammar schools, the first, second and third grades are taught by the singing master alone, — each school, with a single exception, having one lesson a week. No other provision is made in the programme for these classes, though we are happy to know that in many cases considerable attention has been given voluntarily by the regular teachers.

The fourth, fifth and sixth classes have daily lessons by the regular teachers, under the supervision of the singing master, who visits the several rooms once a fortnight.

Of course, with twenty-three primary schools, and nearly a hundred classes, frequent visits cannot be made by the singing master, scattered as the schools are over the city.

Your committee would suggest that, by requiring some instruction from the regular teachers in the three upper classes of the grammar schools, and by a more equitable division of the singing master's time in the primary and grammar schools, still better results may be obtained.

This would, of course, take more of his time for supervision and leave less for direct instruction.

It is believed, however, that the singing master's time can be more profitably spent in arranging a systematic course for the several grades, and supervising the instruction of the regular teachers, than by giving so large a proportion of his time to the instruction of classes.

An occasional meeting of the teachers of the several grades would, without doubt, be welcomed by them, and secure more intelligent and uniform instruction. These suggestions are not intended as criticisms, but with a hope to secure even better results, by dividing the time of the singing master more equitably,

and by availing ourselves to a greater extent of the help of our regular teachers in a branch authorized by statute, and prescribed by the School Committee.

Evening Schools.

Better and more satisfactory results have been attained in the evening schools during the past year than at any time since their establishment. Much of the trouble anticipated from irregular attendance has in a great measure been overcome by the judicious use of admission tickets and a more stringent rule relating to forfeiture of membership. The order, discipline, and whole moral tone of the attendants at our evening schools is much better, so that in most of them the order in the room is nearly if not quite as good as in the day schools. A deeper interest in the exercises and studies is strongly manifest, while the general character of the applicants for admission cards is improving.

The introduction of book-keeping into some of the schools, although a new feature, has been attended with much success, and quite a degree of proficiency in many cases has been attained.

Better accommodations are imperatively demanded for these schools, and a greater uniformity in the text books used. Many of these books are badly soiled and torn and should be replaced by new ones.

Evening Drawing Schools.

At the opening of the free-hand drawing school in October, ninety-three scholars presented themselves. Twenty-seven of these were from the High school and ten from the Grammar schools. Thirty-three were old pupils of from one to four years' standing, and twenty-three were in attendance for the first time.

The subjects taught the class include perspective free-hand outlining in pencil and crayon, model and object drawing from casts in light and shade. Short lectures have also been given in industrial design in line and color.

The average attendance up to the close of the year was seventy-five.

The mechanical class opened with sixty-nine members; twenty-five were pupils of former years, four were from the High school, seven from Grammar schools, and thirty-three were new scholars.

Unusual interest has been shown during the lectures which continue throughout the greater part of the term. The subjects taught are from the blackboard in geometry, building construction, and machine drawing. Industrial instruction is also given in the application of the principles with reference to the several trades.

The average attendance up to Dec. 29 was fifty-five.

Each class meets twice in each week from October to April, and has the care of a master and two assistants.

Salaries.

The Committee on Salaries, while recognizing and appreciating the arduous duties and the faithful services of our teachers, has felt that Cambridge was paying, with very few exceptions, as liberal salaries as existing circumstances warrant, and has, therefore, strenuously, but not always successfully, opposed any increase.

Our school expenditures form a large part of the tax burden of the city, and the School Board ought to show due deference to the feeling which certainly does exist on the part of the citizens that the teachers' salaries, amounting, as they do, to two-thirds of the total school expenses, should not be increased at present.

According to the report of the State Board of Education, just published, there are only four cities and towns in the State that pay as high average salaries as Cambridge, and Boston is the only one of the four likely to draw away our best teachers to any extent. To endeavor to protect ourselves against the loss of teachers by raising their salaries is, therefore, not only unnecessary, but, so far as Boston is concerned, is quite out of the question.

Upon the recommendation of the Committee on Salaries, the Board has adopted a progressive scale of increase in salary during the first five years of a teacher's service, and it is hoped that this system, taken in connection with the Training class for the preparation of young teachers, may result in a considerable saving to the city.

Assuming that ten graduates of the Training class annually find permanent positions in our schools at the minimum salary, the expense to the city during their first four years of service

would be $5,200 less than the expense of appointing the same number of experienced teachers at the maximum salary; to say nothing of the opportunity afforded our Cambridge young women for employment in our public schools.

Committee on Supplies.

The total amount expended by this committee for the school year ending July 3, 1885, was $18,380.75. After deducting $1,734.49, the value of the stock in the store-room at the close of the year, and $111.21, the cash paid to the City Treasurer for books lost or injured, there remains $16,535.05 as the net expense for the year. This covers the first complete school year under the system of furnishing text books and stationery free to all the pupils of the schools; and includes, as will be seen, many items that formerly came under the head of Incidental Expenses.

The average cost for all grades of furnishing free text books and supplies was $1.88 per pupil; of which $1.36 was for text-books, and $0.52 for writing and drawing books, and miscellaneous supplies.

The following is the report in detail:

The expenditures of the committee for the school year ending July 3, 1885, were as follows: —

Text-books	$12,025.40
Miscellaneous supplies	3,872.48
Drawing-books	811.60
Writing-books	757.36
Slates and erasers	279.80
Cartage and expressage	140.95
Printing	128.85
Diplomas	113.10
Record books	105.23
Miscellaneous expenses	145.98
	$18,380.75

For account of the several schools, as follows:—

High and Grammar Schools.

Names of Schools.	Text Books.	Writing and Drawing Books.	Miscellaneous Supplies.	Total.
High	$2,783.37		$425.12	$3,208.49
Allston	$850.83	$176.15	$249.60	$1,276.58
Corlett	116.83	24.90	34.46	176.19
Harvard	1,136.28	196.00	277.31	1,609.59
Putnam	829.75	147.95	227.04	1,204.74
Shepard	779.88	159.35	242.61	1,181.84
Thorndike	853.35	168.26	215.93	1,237.54
Washington	903 83	169.65	240.94	1,314.42
Webster	1,066.66	211,17	397.81	1,675.64
Total for Grammar Schools	$6,537.41	$1,253.43	$1,885.70	$9,676.54

1 The stock in the store-room was as follows: Text-books, $471.42; writing and drawing-books, $118.09; miscellaneous supplies, $1,144.98; making the total as given, $1,734.49.

Primary Schools.

Names of Schools.	Text Books.	Drawing Books.	Miscellaneous Supplies.	Total.
Agassiz[1]	$247.96	$40.75[2]	$82.62	$371.33
Boardman	120.69	9.34	29.80	159.83
Bridge	46.39	2.80	7.69	56.88
Cushing	47.85	2.20	5.67	55.72
Dana	48.18	2.60	16.36	67.14
Dunster	49.57	3.20	5.94	58.71
Felton	52.41	2.40	9.63	64.44
Gannett	73.78	2.80	12.94	89.52
Gore	153.76	9.60	49.44	212.80
Holmes	53.77	3.20	8.36	65 33
Lassell	65.98	4.00	18.12	88.10
Lowell	51.19	3.20	8.48	62.87
Mason	55.51	3.20	13.62	72.33
Otis	123.49	7.60	33.24	164.33
Quincy	53.82	2.40	10.17	66.39
Reed	54.55	3.20	16.53	74.28
Riverside	61.66	4.00	10.37	76.03
Sargent	53.53	3.20	12.36	69.09
Stearns	61.23	3.20	13.86	78.29
Tarbell	58.36	3.20	9.04	70.60
Wellington[1]	341.44	47.43[2]	145.99	534.86
Willard	152.67	10.40	46.95	210.02
Wyman	68.73	4.40	23.14	96.27
City[1]	4.87		3.52	8.39
Evening Schools	20.60	19.12[2]	11.85	51.57
Total	$2,121.99	$197.44	$605.69	$2,925.12

1 Primary and Grammar. 2 Including writing-books.

Total for High School	$3,208.49
Total for Grammar Schools	9,676.54
Total for Primary and Evening Schools	2,925.12

Expenditures made for objects not chargeable to any particular school are as follows: —

Supplies to superintendent, agent, and drawing teacher	$134.04	
Printing	128.85	
Diplomas	113.10	
Cartage and expressage	140.95	
Miscellaneous charges	207.96	
		$724.90

Cash received from books sold or injured, and paid to city treasurer	111.21
Stock[1] in store-room July 7, 1885	1,734.49
Total	$18,380.75

In closing this annual report we desire to assure you, fellow-citizens, that we are fully conscious of the important duties that are laid upon us in the work of properly looking after the schools of this city. The trust is a most important one. It involves the expenditure by us of nearly $163,000 each year for salaries, a large sum when it is considered that it is 15 per cent of the whole sum raised by taxes. We feel that the greatest care and discretion are required to make the results commensurate with this great outlay. We also feel that the care of the moral training of our children and youth makes a much greater demand upon our wisdom and prudence, believing that the spirit as well as the letter of the statute should be carried out, which reads: —

"It shall be the duty" of instructors of youth "to exert their best endeavors to impress on the minds of children and youth committed to their care and instruction the principles of piety, justice, and a sacred regard of truth; love of their country, humanity, and universal benevolence; sobriety, industry, and frugality; chastity, moderation, and temperance; and those other virtues which are the ornament of human society and the

basis upon which a republican constitution is founded; and it shall be the duty of such instructors to endeavor to lead their pupils, as their ages and capacities will admit, into a clear under standing of the above mentioned virtues, to preserve and perfect a republican constitution and secure the blessings of liberty, as well as to promote their future happiness, and also to point out to them the evil tendency of the opposite vices."

WILLIAM E. RUSSELL, *Chairman ex officio.*

School Committee.

FRANCIS FLINT,
JOHN L. HILDRETH,
EDWARD H. HALL,
PHEBE M. KENDALL,
HENRY N. TILTON,
BENJAMIN F. TWEED,
PATRICK J. FINNIGAN,
FREEMAN HUNT,
EDWARD B. MALLEY,
MOSES D. CHURCH,
SARAH S. JACOBS,
WILLIAM H. ORCUTT,
ALBERT M. BARNES,
JOHN W. FAIRBANKS,
WILLIAM A. START,

TABULAR VIEW

OF THE

PUBLIC SCHOOLS OF CAMBRIDGE,

JANUARY 1, 1886.

Names of Schools.	Teachers.	Salary.	No. of Scholars Jan. 1, 1886.
High School.	William F. Bradbury...	$2,800	532
	Theodore P. Adams....	2,000	
	John Orne, Jr.....	1,700	
	Edwin L. Sargent.....	1,700	
	Edward B. Maglathlin..	1,200	
	Frederick W. Eveleth..	800	
	Helen M. Albee.....	800	
	Jessie L. Cate.....	800	
	Elizabeth Emerson.....	400	
	Ada J. Gardner.....	875	
	Margarette M. Leighton	950	
	Emma F. Munroe.....	950	
	Mary F. Pierce.....	950	
	Louisa P. Parker.....	950	
	Emma A. Scudder.....	950	
	Maria E. Spare.....	875	
Allston Grammar.	Benjamin W. Roberts..	2,000	594
	Mary I. Vinton.....	700	
	Sara A. Bailey.....	620	
	Mary M. Brigham.....	620	
	Mary Blair.....	620	
	Carrie Close.....	620	
	Hattie F. Fabyan.....	620	
	Melissa M. McKinley...	620	
	Celia F. McFarland....	620	
	Emily R. Pitkin.....	620	
	Ida G. Smith.....	620	
	Charlotte F. Saul.....	400	
	Carrie M. Williams.....	620	
Harvard Grammar.	James S. Barrell.....	2,000	693
	Ada H. Wellington.....	700	
	Margaret B. Wellington	700	
	Susan F. Athearn.....	620	
	Emily F. Damon.....	620	
	Mary F. Emerson.....	620	
	Myra I. Ellis.....	620	
	Clara A. Emerton.....	620	
	Estelle J. French.....	620	
	Frances Fabyan.....	620	
	Elizabeth I. Garcelon..	620	
	Sarah E. Golden.....	620	
	Caroline Hanks.....	570	
	Cora E. Hosmer.....	620	

Tabular View of the Public Schools. — Continued.

Names of Schools.	Teachers.	Salary.	No. of Scholars Jan. 1, 1886.
Harvard Grammar.	Hortense O. Young.....	$620	
	Sarah E. Clark.....	400	
Putnam Grammar.	Thomas W. Davis.....	2,000	518
	Sanford B. Hubbard....	1,000	
	Eliza M. Hussey.....	700	
	Delia M. Brennan.....	570	
	Annetta Bruce.....	620	
	Anna M. Dormer.....	400	
	Sarah M. Grieves.....	520	
	Annie B. Josselyn.....	620	
	Louise A. Keeler.....	400	
	Augusta G. Mirick.....	620	
	Eliza S. Paddack.....	620	
	Martha R. Smith.....	620	
	Alice L. Watts.....	620	
Shepard Grammar.	Edward O. Grover.....	2,000	556
	Nellie A. Hutchins.....	700	
	Frances H. Dawson....	620	
	Dana A. Eveleth.....	620	
	Emily F. Fessenden....	620	
	Ellen J. Hunt.....	620	
	A. Estelle Ingraham...	620	
	Ruth E. Lander.....	620	
	Evelyn J. Locke.....	620	
	Julia H. Osgood.....	620	
	Clara A. Peterson.....	570	
	Sarah A. Rand.....	620	
	Lizzie B. Shepherd.....	450	
Thorndike Grammar.	Ruel H. Fletcher.....	2,000	520
	Lelia A. Mirick.....	700	
	Grace W. Fletcher.....	620	
	Emma A. Hopkins.....	620	
	Abby A. K. Howard....	620	
	Elizabeth G. Hutchinson	620	
	Martha A. Martin.....	620	
	Mary E. Nason.....	620	
	Elizabeth P. Regal.....	620	
	Isabella B. Tenney.....	620	
	Abby S. Taylor.....	620	
	Lydia A. Whitcher.....	620	
	Laura S. Westcott.....	620	
Washington Grammar	Daniel Mansfield.....	2,000	565
	John W. Freese.....	1,000	
	Carrie H. Hazeltine....	700	
	Eldora J. Clark.....	620	
	Lucy A. Downing.....	620	
	Mary H. Hanks.....	620	
	Adeline M. Ireson.....	620	
	Adelaide A. Keeler.....	620	
	Adelaide A. Keith.....	620	
	Margaret J. Penney....	570	
	Hattie Shepherd.....	620	
	Mary E. Stiles.....	620	
	Abby M. Webb.....	620	
	Mary A. Wheeler.....	620	
Webster Grammar.	John D. Billings.....	2,000	795

Tabular View of the Public Schools. — Continued.

Names of Schools.	Teachers.	Salary.	No. of Scholars Jan. 1, 1886.
Webster Grammar.	Charles H. Morse	$1,000	
	Lizzie C. Capen	700	
	Mary E. Towle	700	
	Marion H. Burnham	620	
	Ella E. Buttrick	620	
	Charlotte M. Chase	620	
	Julia Crane	620	
	Alice K. Crosby	620	
	Mary J. Folsom	620	
	Esther F. Hannum	620	
	Carrie M. Kingman	620	
	Josephine E. Karcher	620	
	Anna S. Lamson	620	
	Clara E. Matchett	620	
	Alice C. Phinney	620	
	Mary A. Townsend	620	
Corlett Grammar.	Fannie P. Browning	630	74
	Emma C. Edson	620	
Agassiz { Grammar. / Primary.	Charlotte A. Ewell	700	{ 160 / 159
	Harriet A. Butler	620	
	Mary G. Carpenter	570	
	Maria L. Baldwin	620	
	Emma A. Child	620	
	Dora B. Dean	570	
	Rosina C. Karcher	620	
Wellington { Gram. / Primary.	Herbert H. Bates	1,200	{ 180 / 172
	Training Class	2,650	
Boardman Primary.	Mary A. Lewis	655	328
	Maria J. Bacon	620	
	Charlotte E. Hezlitt	470	
	Elizabeth J. Karcher	620	
	Sarah E. Stewart	620	
	Evelyn A. Sawyer	620	
	Annie M. Tendler	400	
Bridge Primary.	Elizabeth E. Dallinger	630	85
	Emily C. Dallinger	620	
City Primary.	Julia S. Gushee	625	41
Cushing Primary.	Isadore I. Foster	630	69
	Ada B. Holt	400	
Dana Primary.	Maria F. Williams	630	152
	Abby A. Lewis	620	
	Cordelia J. French	500	
Dunster Primary.	Susan E. Wyeth	635	89
	Nellie M. Colby	400	
Felton Primary.	Sarah J. Gunnison	640	155
	Fanny C. Hartwell	620	
	Minnie F. Munroe	620	
	Elmira F. Cobb,	200	
Gannett Primary.	Sarah J. A. Davis	640	159
	Anna M. Jones	620	
	Mary A. Rady	620	
	Carrie H. Smith	620	
Gore Primary.	Frances E. Pendexter	670	469
	Addie M. Bettinson	620	

Tabular View of the Public Schools. — Continued.

Names of Schools.	Teachers.	Salary.	No. of Scholars Jan. 1, 1886.
Gore Primary.	Anna E. Callahan	$570	
	Sarah D. Graham	620	
	Elizabeth B. Gahm	620	
	Frances Hawkes	470	
	Lizzie J. Hawkins	620	
	Mary E. Mulloney	620	
	S. Louise Regal	500	
	Louise A. Stickney	570	
Holmes Primary.	Marianne M. Webb	640	186
	Mary L. Bullard	620	
	Ellen M. Cyr	620	
	Isabel Foster	620	
Lassell Primary.	Nellie F. Ball	640	212
	Ella R. Avery	620	
	Cora A. Reycroft	620	
	Frances E. Whoriskey	620	
Lowell Primary.	Winona Abercrombie	640	93
	Lucy E. Cyr	550	
	Nellie F. McCarthy	500	
Mason Primary.	M. Lizzie Evans	630	99
	Lizzie J. Baldwin	400	
Otis Primary.	Luvia Goodnow	660	381
	Fannie Allen	620	
	Martha H. Butler	620	
	Josephine M. Doherty	620	
	Ellen N. Leighton	620	
	Luella M. Marsh	500	
	Ellen C. Walsh	620	
	Kate F. Wellington	620	
Quincy Primary.	Lucy C. Wyeth	630	78
	Evelina Brooks	620	
Reed Primary.	Margaret Kidd	640	190
	M. Jennie Biddle	400	
	Helena V. Eaton	500	
	Harriet N. Keyes	620	
Riverside Primary.	Elizabeth A. Tower	640	186
	Amanda M. Alger	620	
	Mary A. Burke	400	
	Ella E. Coye	620	
Sargent Primary.	Frances J. Harrod	640	172
	Christina D. Barbey	400	
	Mary A. Brown	620	
	Mary E. Woodman	620	
Stearns Primary.	Helen M. Ward	640	162
	Ellen A. Cheney	620	
	Mary M. Tingey	570	
	Eva A. Taylor	200	
Tarbell Primary.	Charlotte E. Jewell	640	154
	Mary H. Ross	620	
	Emma J. Young	570	
	Hattie A. Thayer	200	
Willard Primary.	Amelia Wright	680	485
	S. N. Chamberlain	620	
	Louise W. Harris	620	
	Mary E. G. Harrington	620	
	Kate M. Lowell	620	

Tabular View of the Public Schools. — Continued.

Names of Schools.	Teachers.	Salary.	No. of Scholars Jan. 1. 1886.
Willard Primary.	Emma C. Otis.....	$620	
	Mary E. Sawyer.....	620	
	Laura Wright.....	620	
	Grace R. Woodward....	620	
	Belle F. Gulliver.....	200	
Wyman Primary.	Fannie E. M. Dennis....	640	188
	M. Carrie Dickman.....	620	
	Georgiana B. Dutcher..	500	
	Mary M. Gilman.....	620	

TEACHER OF SINGING — Nathan Lincoln	$1,700
TEACHER OF DRAWING — Augusta L. Balch	800
SUPERINTENDENT — Francis Cogswell	2,800
AGENT — Frederick S. Cutter	1,200

The Wellington School is a Training School, composed of grammar and primary scholars, taught by fourteen young ladies, graduates of Normal Schools and candidates for the office of teacher, under the direction and with the assistance of the master of the school.

Temporary assistants and members of the Training Class are counted as eight teachers; the sum of their salaries being equal to the amount paid to that number of regular teachers.

The post-office addresses of the several schools are as follows: —

CAMBRIDGE. — Washington*, Agassiz, Dunster, Holmes, Lowell, Quincy, Riverside.

CAMBRIDGEPORT. — Latin, High, Allston*, Harvard*, Webster*, Boardman, Bridge, Dana, Felton, Gannett, Mason, Sargent, Stearns, Tarbell, Wellington, Willard.

EAST CAMBRIDGE. — Putnam*, Thorndike*, Gore, Lassell, Otis.

NORTH CAMBRIDGE. — Shepard*, City, Reed, Wyman.

MOUNT AUBURN. — Corlett*, Cushing.

* Grammar Schools.

Summary.

Number of pupils in High School	532
" " Grammar Schools	4,315
" " Primary Schools	4,804
	9,651

Cost of Instruction.

High School	$18,700	For each pupil	$35.15
Grammar Schools	74,725	" " "	17.32
Primary Schools	59,250	" " "	12.33
Teacher of Singing	1,700		
Teacher of Drawing	800		
Superintendent	2,800		
Agent	1,200		
	$159,175	For each pupil	$16.49

Number of pupils belonging to Public Schools, Jan. 1, 1886	9,651
Number of pupils belonging to Public Schools, Jan. 1, 1885	9,062
Increase	589

Average annual increase of pupils from 1860 to 1874, (inclusive)	246
Decrease of pupils, 1875	268
Increase of pupils, 1876	6
Decrease of pupils, 1877	81
Decrease of pupils, 1878	50
Increase of pupils, 1879	57
" " 1880	286
" " 1881	403
" " 1882	448
" " 1883	280
" " 1884	165
" " 1885	589

Number of schools	33
Number of school-rooms	207
Number of teachers	224

Salaries of Truant Officers	$2,700.00
Cost of Evening Schools	1,683.52
Cost of Drawing Schools	933.15

REPORT

OF

THE SUPERINTENDENT OF SCHOOLS.

To the School Committee of Cambridge:—

I RESPECTFULLY submit the following as my report for the year ending Dec. 31, 1885, it being my eleventh report, and the seventeenth of the series of annual reports of the Superintendent of Public Schools.

SUMMARY OF STATISTICS.

I. — POPULATION.

Population of Cambridge by the State census for 1885	59,660
Number of children in the city between five and fifteen years of age, May 1, 1885, as reported by the Truant-Officers . . .	10,957

II. — SCHOOLS.

1 High School, with fourteen separate rooms.
8 Grammar Schools, with ninety-seven separate rooms.
24 Primary Schools, with ninety-six separate rooms.
2 Evening Drawing Schools, with two separate rooms.
4 Evening Schools, with four separate rooms.

Whole number of Day Schools	33
Whole number of separate rooms	207

III. — SCHOOL-HOUSES.

For the High School	1
For the Grammar Schools	8
For both Grammar and Primary Schools	5
For the Primary Schools	18

IV. — Teachers.

Number of teachers in High School 15
Male teachers, 6; female teachers, 9.
Number of teachers in Grammar Schools 110
Male teachers, 11; female teachers, 99.
Number of teachers in Primary Schools 97
Number of teachers in Evening Drawing Schools, 1884–5 . . . 6
Average number of teachers in Evening Schools, 1884–5 . . . 19
Whole number of teachers in Day Schools, including the teacher of Music and the teacher of Drawing[1] 224
Number of teachers who have attended Normal Schools . . . 139
Number of teachers who have graduated from Normal Schools 122

V. — Pupils.

Attendance at all the Day Schools, 1881 to 1885.

Year.	Number of Pupils Registered.	Average Number Belonging.	Average Daily Attendance.	Per cent of Attendance.
1881	8,912	7,434	6,759	91.0
1882	9,395	7,898	7,231	91.5
1883	9,691	8,194	7,523	91.8
1884	9,982	8,414	7,763	92.2
1885	10,213	8,650	7,915	91.5

Attendance at the High School, 1881 to 1885.

Year.	Number of Pupils Registered.	Average Number Belonging.	Average Daily Attendance.	Per cent of Attendance.
1881	484	430	403	93.7
1882	460	426	403	94.6
1883	438	396	375	94.6
1884	452	398	377	94.7
1885	499	462	434	94.0

1 Temporary assistants and members of the training class are counted as eight teachers; the sum of their salaries being equal to the amount paid that number of regular teachers.

Attendance at the Grammar Schools, 1881 to 1885.

Year.	Number of Pupils Registered.	Average Number Belonging.	Average Daily Attendance.	Per cent of Attendance.
1881	4,039	3,572	3,309	92.6
1882	4,147	3,627	3,360	92.6
1883	4,186	3,728	3,462	92.8
1884	4,363	3,848	3,593	93.3
1885	4,562	4,119	3,816	92.6

Attendance at the Primary Schools, 1881 to 1885.

Year.	Number of Pupils Registered.	Average Number Belonging.	Average Daily Attendance.	Per cent of Attendance.
1881	4,369	3,418	3,033	88.7
1882	4,775	3,834	3,456	90.1
1883	5,067	4,070	3,686	90.5
1884	5,167	4,168	3,798	90.9
1885	5,152	4,069	3,664	90.0

Number of Pupils Graduated from, and Admitted to, the High School and the Grammar Schools, 1881 to 1885.

Year.	Graduated from High School.	Admitted to High School.	Graduated from Grammar Schools.	Admitted to Grammar Schools.
1881	87	150	238	771
1882	67	145	226	815
1883	70	172	251	958
1884	75	206	314	1,042
1885	72	239	303	1,103

Number of Pupils belonging to the Evening Schools with the Average Attendance, 1884-85.

Number of Pupils . . 355. Average Attendance . . 140.

Number of Pupils belonging to the Evening Drawing Schools, with the Average Attendance, 1881 to 1885.

1881.	1882.	1883.	1884.	1885.
159	153	159	212	223
67	66	89	104	110

Number of Pupils over Fifteen Years of Age belonging to the Day Schools on the First of May, 1881 to 1885.

1881.	1882.	1883.	1884.	1885.
507	523	586	668	695

Number of Pupils in the Private Schools in Cambridge, including the Parochial School, 1881 to 1885.

1881.	1882.	1883.	1884.	1885.
1,743	1,752	1,844	1,869	1,865

Table Showing the Number in each Course in the High School, December, 1885.

Year.	Classical Course.	Full English Course.	Commercial Course.	Number of Divisions.
Fifth	25	..	..	1
Fourth	19	38	..	3
Third	35	48	..	4
Second	118		20	6
First	166		64	10

[For the first two years the Classical Course is identical with the Full English Course. The Commercial Course is one of two years only, and is confined wholly to English studies.]

Table showing the Number in each Year of Attendance in the High Schools, December, 1885.

Year.	Boys.	Girls.	Total.	Per Cent.
Fifth	18	7	25	.045
Fourth	21	35	56	.105
Third	36	47	83	.157
Second	55	83	138	.259
First	103	127	230	.433
Total	233	299	532	

Table showing the Number in each Class in the Grammar Schools, December, 1885.

Class.	Boys.	Girls.	Total.	Per Cent.
First	129	169	298	.064
Second	244	249	493	.105
Third	319	343	662	.142
Fourth	439	476	915	.196
Fifth	474	504	978	.210
Sixth	658	656	1,314	.282
Total	2,263	2,397	4,660	

Table showing the number of pupils in each Class in the Primary Schools, December, 1885.

Class.	Boys.	Girls.	Total.	Per Cent.
First	608	613	1,221	.274
Second	654	628	1,282	.287
Third	1,016	940	1,956	.438
Total	2,278	2,181	4,459	

Summary of the School Census, as taken by the Truant-Officers, May, 1885.

[The statutes make it the duty of the School Committee annually to ascertain the names and ages of all persons belonging to their respective towns and cities on the first day of May, between the ages of five and fifteen years.]

Number of children in the city five years old or more, but less than fifteen	10,957
Number in Public Schools five years old or more, but less than fifteen	8,622
Number in Private Schools five years old or more, but less than fifteen	1,335
Number not attending school five years old or more, but less than eight	587
Number not attending school eight years old or more, but less than fourteen	201
Number not attending school fourteen years old or more, but less than fifteen	212
Whole number not attending school five years old or more, but less than fifteen	1,000
Number in the city five years old or more, but less than six	892
Number in the city eight years old or more, but less than fourteen	6,858

VI. — Finances.

Cost of instruction in Day Schools	$158,640.13
Free text-books and supplies	14,908.47
Incidental expenses for Day Schools	596.47
Cost of Evening Drawing Schools	933.15
Cost of Evening Schools	1,683.52
Care and repairs of school-houses	32,661.02
Amount expended on Webster school-house to Dec. 1	11,589.01
Amount expended for Latin school-house to Dec. 1	6,500.00
Total expenditures for all school purposes	$227,511.77
Deducting receipts from the Hopkins Fund ($777.20) and for tuition of non-resident pupils ($326.75) actual cost of the schools to the city	$226,407.82
Assessed value of real and personal estate, May, 1885	$55,346,555.00
Ratio of expenses for school purposes to the valuation of 1885	.004

Cost of Instruction in the Day Schools, 1876 to 1885.

[Salaries of teachers, superintendent, and truant-officers.]

Year.	Whole Cost.	Average Number of Pupils.	Cost per Pupil.
1876	$164,818.00	7,066	$23.32
1877	151,946.65	7,139	21.28
1878	136,491.20	7,028	19.42
1879	132,570.49	6,957	19.05
1880	130,371.75	7,175	18.17
1881	132,501.10	7,434	17.82
1882	137,328.55	7,898	17.38
1883	144,457.60	8,194	17.63
1884	152,290.62	8,414	18.09
1885	158,640.13	8,650	18.33

Cost of the Day Schools, 1875 to 1885.

[The expenditures for new school-houses and new furniture are not included.]

Year.	Whole Cost.	Average Number of Pupils.	Cost per Pupil.
1875	$212,960.72	7,167	$29.71
1876	200,894.09	7,066	28.43
1877	180,974.36	7,139	25.35
1878	162,437.77	7,028	23.11
1879	158,196.21	6,957	22.73
1880	153,967.56	7,175	21.45
1881	158,282.84	7,434	21.29
1882	166,230.52	7,898	21.04
1883	177,149.93	8,194	21.62
1884	203,234.56	8,414	24.15
1885	206,806.09	8,650	23.90

Statistics taken from the Forty-ninth Annual Report of the Secretary of the State Board of Education.

Number of cities and towns : cities, 23 ; towns, 324 . . .	347
Number of public schools	6,447
Number of pupils of all ages in the public schools during the year	339,714
Number of persons over fifteen years of age attending the public schools	25,498
Number of persons employed as teachers in the public schools during the year : men, 1,061 ; women, 8,460 ; total	9,521
Number of teachers who have graduated from Normal Schools	2,392
Average number of months the public schools have been kept for the entire year	9.4
Number of High Schools	224
Number of teachers in High Schools	644
Number of pupils in High Schools	20,489
Amount expended upon the public schools, exclusive of the expense of school buildings	$5,631,584.62
Cost of new school-houses, permanent improvements, and ordinary repairs	$1,388,845.38
Entire expenditure for public school purposes	$7,020,430.00
Amount of the Massachusetts School Fund, Dec. 31, 1885	$2,710,241.30

Special Institutions.

In addition to the amount paid for public schools, Massachusetts expended in 1885 : —

For the deaf mutes	$32,070.41
" blind	30,000.00
" feeble-minded	11,188.41
" children of the Primary School, at Monson . .	53,446.56
" boys at the Lyman School for Boys, at Westborough	29,314.21
" girls at the State Industrial School, at Lancaster	17,041.92

The Commonwealth has provided for its deaf-mute beneficiaries at the same institutions as in past years, — the American Asylum at Hartford, Conn., the Clarke Institution at Northampton, Mass., and the Horace Mann School at Boston, — paying *pro rata* for the care and instruction of those whom it sends. At the present time the State has about two hundred beneficiaries in these institutions, and in the Perkins Institute for the Blind seventy-four.

A Graduated Table in which the Cities in the State are numerically arranged according to the Percentage of their Taxable Property appropriated to the Support of Public Schools for the year 1884–85.

For 1884-5 by the State Valuation of 1884.	Cities.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.	For 1884-5, by the State Valuation of 1884.	Cities.	Percentage of Valuation appropriated to Public Schools—equivalent to mills and hundredths of mills.
1	Gloucester	$.004–30	13	Holyoke	$.002–99
2	Haverhill	4–03	14	Newburyport	2–94
3	Waltham	4–01	15	Taunton	2–86
4	Lynn	3–40	16	Brockton	2–84
5	Somerville	3–33	17	Salem	2–78
6	Worcester	3–33	18	Fall River	2–73
7	Malden	3–30	19	Lowell	2–70
8	Fitchburg	3–17	20	Springfield	2–68
9	Newton	3–16	21	Lawrence	2–66
10	Cambridge	3–14	22	New Bedford	2–51
11	Chelsea	3–12	23	Boston	2–01
12	Northampton	3–11			

Towns and Cities of Middlesex County.

1	Marlborough	$.005–47	28	Framingham	$.003–20
2	Natick	4–73	29	Medford	3–20
3	Stoneham	4–58	30	Chelmsford	3–19
4	Wakefield	4–57	31	Newton	3–16
5	Ashby	4–24	32	Cambridge	3–14
6	Woburn	4–23	33	Shirley	2–97
7	Arlington	4–11	34	Ashland	2–92
8	Hudson	4–03	35	Pepperell	2–91
9	No. Reading	4–01	36	Maynard	2–73
10	Waltham	4–01	37	Lowell	2–70
11	Wayland	3–96	38	Sherborn	2–68
12	Concord	3–81	39	Dracut	2–67
13	Ayer	3–64	40	Everett	2–66
14	Winchester	3–62	41	Dunstable	2–51
15	Tyngsborough	3–57	42	Tewksbury	2–49
16	Townsend	3–50	43	Burlington	2–48
17	Westford	3–50	44	Watertown	2–48
18	Melrose	3–47	45	Weston	2–40
19	Reading	3–42	46	Bedford	2–33
20	Wilmington	3–39	47	Boxborough	2–24
21	Littleton	3–38	48	Belmont	2–22
22	Acton	3–37	49	Carlisle	2–15
23	Holliston	3–35	50	Lincoln	2–08
24	Hopkinton	3–34	51	Sudbury	2–05
25	Somerville	3–33	52	Billerica	1–89
26	Malden	3–30	53	Stow	1–88
27	Lexington	3–25	54	Groton	1–86

School-Houses and School Lots.

School-houses.	Number of School-rooms.	Appraised Value of Buildings.	Size of Lots, Square feet.	Appraised Value of Lots.	Total Value of Buildings and Lots.
High School	10	$35,000	37,828	$24,000	$59,000
Latin School	6	11,000	10,249	4,000	15,000
Allston	12	25,000	15,193	7,600	32,600
Corlett	2	2,700	10,000	800	3,500
Harvard	16	45,000	20,494	13,000	58,000
Putnam	9	16,000	10,000	6,000	22,000
Shepard	11	25,000	14,755	10,000	35,000
Thorndike	12	25,000	10,027	10,000	35,000
Washington	12	25,000	14,951	11,000	36,000
Webster	16	45,000	25,839	8,000	53,000
Wellington	7	17,000	18,870	5,000	22,000
Agassiz	7	18,000	19,689	6,000	24,000
Boardman	8	15,000	10,018	5,000	20,000
Bridge	1	1,600	4,646	1,800	3,400
Cushing	2	3,800	14,788	1,200	5,000
Dana	4	3,000	14,317	7,000	10,000
Dunster	4	3,500	10,000	2,500	6,000
Felton	4	8,000	15,090	5,000	13,000
Gannett	4	4,000	8,802	2,700	6,700
Gore	12	20,000	9,900	5,000	25,000
Holmes	4	5,000	11,182	4,500	9,500
Lassell	4	7,500	10,000	1,500	9,000
Lowell	4	9,500	12,033	2,500	12,000
Mason	2	2,500	10,000	7,500	10,000
Otis	8	10,000	8,270	4,000	14,000
Quincy	2	9,000	8,469	5,000	14,000
Reed	4	4,600	12,000	2,400	7,000
Riverside	4	5,000	11,198	4,500	9,500
Sargent	4	4,500	9,995	6,500	11,000
Stearns	4	4,000	10,050	6,500	10,500
Tarbell	4	9,500	19,500	2,000	11,500
Willard	12	25,000	20,079	6,000	31,000
Wyman	4	5,000	14,346	3,600	8,600
Total	219	$449,700	452,578	$192,100	$641,800

Remarks on the Statistics.

The increase over the last school year in the number of pupils registered is 231; in the average number belonging, 236; in the average daily attendance, 152; while in the per cent of attendance, there has been a decrease of seven-tenths of one per cent. The number belonging to the schools in December, 1884, was 9,062; in December, 1885, 9,651; an increase for the year of 589.

In the cost of instruction, which is made up of the salaries of the teachers, Superintendent, and truant-officers, the increase is about $6,000, the increase per pupil being 24 cents. For six years, beginning with 1876, there was an average annual decrease of the cost of instruction per pupil of 99 cents; for the past three years there has been an average increase of 32 cents.

The entire cost of the day schools, excluding the expenditure for the new school-house, exceeds that of last year by $3,500; the cost per pupil, however, is less by 25 cents.

While Cambridge expends a large amount for her schools, there are more than two hundred towns and cities in the State which make a larger expenditure in proportion to their wealth. In a list of the towns and cities, arranged numerically according to the percentage of their taxable property appropriated to the support of public schools for the year 1884–85, Cambridge is the tenth among the twenty-three cities, and the two hundred and fourteenth among the three hundred and forty-seven towns and cities. Compared with the fifty-four towns and cities of our county, Cambridge is the thirty-second. In a list of the towns and cities of the State, arranged numerically according to the sum appropriated for each child between five and fifteen years of age, Cambridge is the thirty-fourth.

I have inserted these statistics relating to the schools of the State, because many of our teachers, and of our citizens generally, do not see the report of the Secretary of the Board of Education from which they are taken.

School Accommodations.

During the past year the Webster school-house has been enlarged by the addition of a wing which will contain, when finished, four school-rooms, 31 feet by 30, a master's room, 14 by $8\frac{1}{2}$, and a hall, 54 by 47, not including the platform. These rooms will be occupied as soon as ready, since the Webster

school now has four classes occupying rooms in primary buildings, and these classes will be brought back at once to the main school. Two of the primary rooms which will be vacated are already needed, and in April the third, if not the fourth, will be required.

The Latin school building on Lee street, containing six school-rooms and a library room, will be ready for use by the first of March. The High school in its two divisions will then be well accommodated. The English High school building should be thoroughly repaired during the summer vacation.

Additional school-rooms will be needed the coming year in Wards Two and Five. The most economical way for providing these is to build a new school-house in Ward Two on land owned by the city, and to enlarge the Wyman school-house in Ward Five. If a new primary school-house is provided in Ward Two, the Gannett building can be used in connection with the Wellington to relieve the Allston school.

School Government: Is Additional Legislation Desirable?

At the meeting of the School Committee in April the following order was adopted: "Ordered, that the Committee on the Truant-Officers, with the Superintendent, consider and report to this board at a subsequent meeting whether, in their opinion, there is any practicable way by which obstinate and refractory boys in our Grammar schools can receive instruction by themselves and away from the other scholars." The committee to which this order was referred made report at the meeting in October, "that, under the existing laws of the Commonwealth, there is no practicable way by which this instruction can be given."

Such an order as the above would never have been adopted had the committee not believed that there were pupils in our schools whose conduct and example were injurious to their schoolmates and detrimental to the best interests of the schools.

The real question, therefore, to be considered is the old question, how to deal with wrong-doers, having in mind *their* good and at the same time the good of those affected by them.

My experience in the schools of Cambridge, first as teacher and then as Superintendent, extends over a period of more than

thirty years; and during all these years, and doubtless during all previous years, the schools have suffered from the presence of a few disobedient and defiant pupils.

In former times such pupils were kept in school by the frequent use of the rod, but their presence was nevertheless in many cases a positive injury. During the past ten or fifteen years temporary suspension from school has been substituted for the use of the rod, with no better results. This class of pupils is and always has been a disturbing element in the schools.

In my first report as Superintendent in 1875, I raised the question "whether an ungraded school might not be established to which the few who are the real cause of trouble might be sent." Again in 1878, in referring to the rule of the School Board on discipline, I wrote:

"Suspension from school should mean to the child more than an interview with the Committee or Superintendent: it should mean *reformation* or *expulsion*. I know it is a serious matter to turn a child into the streets, and some better way should be provided; but it is also a serious matter to keep him in school when his influence is 'only evil continually.' It has been truly said that 'the well-behaved majority have rights as well as the disorderly and disobedient few. It cannot be disguised that the street and home-training of many boys is in crime rather than virtue, in filthiness rather than purity; and parents have a right to demand of the community, in assuming the education of their children, that they be shielded from the influence of such as these.'"

At that time I recommended that a special committee be appointed to consider the question of opening an ungraded school for this class of children. Such a committee was appointed, and after considering the question reported the following order, which was adopted: "Ordered, that a sub-committee of one from each ward be appointed, with power to open at such time as they shall deem expedient, in some school building centrally located, an ungraded school for scholars whose influence on their schoolmates is deemed pernicious, or who are refractory and disorderly."

The school was never opened. As a matter of fact, although I made the recommendation that such a school be established, yet when I came to consider in detail the difficulties to be over-

come, and the hindrances to its success, I felt that the school would be a failure, and chiefly from the lack of authority to remove the children, if necessary, from the unfavorable influences at home.

It is the universal testimony of teachers that often a single scholar by his example and influence seriously interferes with the progress of a whole class, and makes it impossible to secure that harmony of feeling which is essential to the awakening of the best and noblest impulses of our nature. This disturbing element should be removed from the schools. How it can best be done is a problem involving many difficulties. Each town is now required to "provide a suitable place for the confinement, discipline and instruction of truants, and of children between seven and fifteen years of age who may be found wandering about in the streets, or public places therein, having no lawful occupation or business, not attending school, and growing up in ignorance."

Why should not this law be amended so as to include among the classes of children affected by its provisions those who persistently refuse to comply with the reasonable rules and regulations of the school? Let us look at the practical working of this law, and then consider its probable effect, if amended as suggested, upon the class of children under consideration.

Under the truant law habitual truants and absentees from school between the ages of seven and fifteen can be committed by the court having jurisdiction to any institution of instruction provided for the purpose, for a term not exceeding two years. In looking over the reports of our truant-officers for five years, I find that the average yearly number of truants thus committed has been ten and six-tenths, fourteen being the largest number in any one year. These facts, however, do not show the full value of the law. As I said in my report last year, "The importance of the services of the truant-officers is not to be judged by the number of truants brought before the court, or even by the number of cases of truancy which have occurred during the year; but rather by the number of children now in our schools, who, but for the watchful care and personal influence of these officers, would be wandering about the streets, exposed to the dangers and temptations of a vagrant life." The wisdom of enacting the truant law is no longer questioned, for the beneficial results are too apparent.

Were this law changed as proposed, I am confident that equally desirable results would be secured under the amendment. The number who would receive sentence would be comparatively small, but the very existence of the law would be a restraint upon every pupil inclined to do wrong, and it would also have a salutary effect upon the parents of such children, causing them to coöperate more heartily with the teachers in their efforts to secure proper respect and obedience.

The new law should not be too rigid in its requirements. No parent should be compelled to send his child to this school if he prefers to send him to a private school approved by the School Committee. Discretionary powers should be granted in the management of the school. Scholars showing a good spirit for a proper length of time, truants as well as others, might be allowed to live at home on condition that their attendance were regular, and their deportment satisfactory; they might even be returned on probation to the schools from which they came.

All the arrangements and appointments of this school should be of the best character. Everything should be done to make it both efficient and attractive. The name even should not be suggestive of the character of the scholars who attend it. In addition to the regular course of study, instruction should be given in manual training. Many a boy who takes but little interest in his books will become enthusiastic in the use of tools, and then it is comparatively easy for the skillful teacher to interest him in his studies, at least in such as are most intimately related to the work which he has already begun to enjoy.

The cost of the school would be a consideration, but where truant schools are now established the additional expense would not be in proportion to the increase in the number of pupils; and when we take into account the loss of time on the part of teachers, and the interruptions to school work now caused by this class of pupils, it may be found that their removal will make it possible to increase the average number of pupils to a teacher, so as to leave the total expenditure for schools unchanged. But even should there be an increase of a few thousand dollars in the cost of the schools, it might prove in the end, even from a money point of view, to be true economy. Our reform schools and houses of correction, our jails and prisons, might cost less.

In former times, as I have already said, such pupils were kept in school by the frequent use of the rod; but during the last twenty years public sentiment has greatly changed with reference to corporal punishment, either in the family or in the school. No teacher would be tolerated to-day in any school in Massachusetts who used the rod with the frequency and severity common in the majority of our schools thirty years ago. And even should the teacher be sustained by the school authorities, the effect of corporal punishment would not be the same now as formerly. Then parents upheld the teacher in this mode of discipline, and the child whipped at school was often—perhaps too often—punished again at home because he had been punished at school.

For the past twenty years in several of the schools of Cambridge, and for ten or twelve years in a majority of them, corporal punishment has not been inflicted in a single instance; and during the past year there have been less than fifty cases in all the public schools of the city, a number smaller, I have reason to believe, than the average daily number twenty-five or thirty years ago. Undoubtedly during these recent years the number of troublesome scholars in our schools has increased out of proportion to the increase in the whole number of pupils; but it is also true, I think, that at no previous time have the relations between the teachers and the great majority of their pupils been so pleasant and satisfactory.

Is additional legislation desirable? My experience leads me to answer without hesitation in the affirmative; and the legislation which I believe to be needed is the authority to deal with incorrigible pupils as we now have the right to do with habitual truants. I will briefly re-state the whole subject as it lies in my mind:

1. There are pupils in our schools who seriously interfere with the work; and some plan should be devised by which these pupils may no longer be a hindrance to the progress of our schools.

2. This result can be secured in only one of two ways,—by the reformation of these pupils, or by their removal from the schools. With public sentiment as it is, the endeavor to reform them by corporal punishment is inexpedient.

3. Removals should be made only by "due process of law;" and all pupils thus removed should be provided with equal advantages in a special school.

4. This school may be the truant school modified and improved, or it may be a school established exclusively for this class of scholars.

5. To insure regular attendance and good conduct, the School Committee should have special powers in the management of the school. Pupils attending it should be wholly under the control of the Committee. As an incentive to well-doing, pupils showing a disposition to conform to the requirements of the school might be allowed to live at home, and might even be returned on probation to the schools from which they came.

6. No pupil should be compelled to attend this school, if his parents prefer to send him to a private school approved by the Committee.

7. The number of scholars sent to this school would be comparatively small, but the effect of sending the few would be a powerful restraint upon every pupil inclined to do wrong.

8. The object of the plan proposed is two-fold: first, to remove from our schools a disturbing element; and, second, to benefit the very scholars who are removed.

The Free Text-Book Law.

Within the past few months several letters of inquiry in regard to the working of the free text-book law, have been received from other cities and towns. These letters have been answered by the agent of the Committee on Supplies, Mr. Cutter, whose position gives him a favorable opportunity for judging of the merits of the system. As this subject seems to be of special interest, I have requested him to give me for this report the substance of the letters which he wrote in reply to the inquiries I have mentioned. It is as follows: —

Since the free text-book system has been in operation but a year and a half, the time has hardly come when the plan can be fairly judged. I therefore simply present a few of the advantages and disadvantages in the plan that have thus far appeared.

1. The theory of free schools is now made complete by supplying free of charge all books and stationery needed in the work of the schools. As the children of the rich and the poor alike receive these articles, all work together on a plane of equality.

2. The work of the schools now begins more promptly than formerly, since the books and supplies are at the school-houses on the first day of the term. When the pupils bought their own books and stationery, there were many who failed to be provided

with what was needed until several weeks had elapsed, thus hindering the progress of an entire class.

3. The cost of the books and stationery to the city is much less than it was formerly to the people, since the purchases are made in large amounts and at the lowest wholesale prices.

4. The books owned by the city will be used until worn out, for when no longer needed in one class they are passed to the pupils of another class.

5. These books are being used with greater care than the ones formerly owned by the pupils. This is due to oversight and training on the part of the teacher, and to personal responsibility on the part of the pupil, a book unnecessarily injured being paid for.

6. This training in the habit of cleanliness and in the care of books and other property, is of great value to the pupils.

7. There is an increase of attendance in the schools, especially in the High School.

8. The plan favors variety in the use of text-books, as, for example, the reading-book. When a class is composed of two or more divisions, a different set of books can be supplied to each division of the class without increase of cost. The different sets can then be read in turn by each division, thus securing a greater amount and variety of reading.

On the other hand, the following disadvantages appear in the system:

1. The scholars no longer have the ownership of their school books; whereas there is an advantage in owning such books as the arithmetic and the geography, and many of the High School books. And when the scholars withdraw from school and leave behind them the help of their teachers, these books may still render important service.

2. The cost of the plan to the city is greater than is represented by the money expended in the purchase of books and stationery. Considerable time in the aggregate is required from teachers during school hours for giving out books and various articles of stationery, and keeping a record thereof with the individual pupils; also for the frequent examination of books to prevent loss and injury.

3. The books which the pupils are now using were, in the greater number of cases, new when loaned to them, and the books that were not new had been but little used; hence no difficulties have yet arisen in the distribution. It still remains to be seen how satisfactory the plan will be when it becomes necessary to distribute books that have been soiled in some degree, though not enough to condemn their use.

Information in detail regarding the cost of the system to our city may be found in the report of the Committee on Supplies.

The Wellington School.

This school was opened in September, 1884, and differs from the other schools in this respect,—all the classes are taught by young teachers. Their work, however, is done under the immediate supervision of a principal, who is held responsible for the instruction and management of the school.

The object in conducting a school on this plan is to give our Cambridge young women who desire to teach, and who have made special preparation for the work, an opportunity to gain experience under conditions favorable to their own success, and without prejudice to the interest of their pupils.

The number of teachers is limited to fifteen, exclusive of the principal.

Graduates from the Full Course of the English High School or from the Classical Course of the Latin School, who have also graduated from one of our State Normal Schools or from the Boston Normal School, will be preferred candidates for the position of teacher in this school. By special vote of the Committee on the Training Class, other persons of equal attainments may be elected.

The required term of service is one year, and all teachers accepting positions do it with the understanding that they will remain for this length of time, unless excused by the Committee on the Training Class. Teachers may be retained for a longer period by vote of this Committee.

During the first year of service no teacher in this school is expected to act as a substitute except for a single day, or until a teacher of longer experience can be secured. In case the Committee cannot obtain an experienced substitute, it shall be the duty of the one temporarily employed to notify the Superintendent of Schools.

The money compensation for service is as follows: Teachers are paid for the first four months at the rate of one hundred and fifty dollars per annum, afterwards at the rate of two hundred dollars per annum.

The school contains all the classes of the primary grade, with the fifth and sixth classes of the grammar grade, the number of pupils being about three hundred and fifty. Ten of the teachers

connected with the school last year have already obtained permanent positions in the schools of Cambridge.

Should a primary school-house be built in Ward Two, as proposed, and the Gannett building be used in connection with the Wellington, an associate principal or assistant should be appointed in the Wellington School. This can be done without adding to the yearly cost of the Gannett and Wellington schools as now organized.

School Hours and Recesses.

In October, under a suspension of the rules, the following order was adopted: "Ordered, that, from the first of November next to the first of March following, the hours for keeping school in the Grammar and Primary Schools shall be from 9 to 11.30 A. M., and from 1.30 to 3.30 P. M., with no general outdoor recess in either session." So far as I have been able to learn, this arrangement has been satisfactory to parents, teachers, and scholars. While I am not prepared to recommend that the plan be adopted for the entire year, I am confident that for the winter season it has positive advantages, and I suggest as an experiment for one year that the sessions and recesses of the Grammar and Primary Schools be as follows: That from the April vacation to the first of November, the morning sessions be from 8.30 to 11.30, and from the first of November to the April vacation from 9 to 11.30; that from the first of November to the first of February the afternoon sessions be from 1.30 to 3.30, and from the first of February to the first of November, from 2 to 4; and that there be no general outdoor recess, except when the sessions are three hours long.

Selections for Memorizing.

For several years the course of study for the Grammar Schools has required that pieces of poetry and prose should be learned and recited from week to week. In many of the schools the selections have been wisely and judiciously made, and that attention has been given to the work, I will not say which its importance demands, but which a crowded course of study will allow. It has sometimes occurred to me as I have listened to these memory exercises in the various schools, whether it would

not be better to have the selections for each class confined to one or two authors, and to have the minimum amount to be learned each week, if not the precise lines, definitely fixed. By this plan our pupils would become better acquainted with a few authors, and all the classes in our schools would more surely receive regular instruction in this important branch. I say important branch, for it seems to me that in the entire course of study there is no other exercise which affords so favorable an opportunity as this for teachers "to impress on the minds of their pupils those virtues which are the ornament of human society, and the basis upon which a republican constitution is founded."

To show the character of the instruction which may be woven into these lessons, I have given space in the Appendix to an exercise prepared by one of our teachers for her class, entitled, "A Talk About Home." I commend it to the attention of teachers, for the whole range of kindred subjects might be treated in the same effective manner.

FRANCIS COGSWELL,

Superintendent of Public Schools.

APPENDIX.

APPENDIX.

ORDINANCES

PASSED SINCE THE REVISION OF THE ORDINANCES.

An Ordinance in Relation to the Salary of the City Physician.

SECTION 1. From and after the first Monday of January, 1880, the salary of the City Physician shall be at the rate of one thousand dollars per annum.

SECT. 2. So much of Section 1 of Chap. 27 of the Revised Ordinances as is inconsistent herewith is hereby repealed.

[*Adopted March* 3, 1880.]

An Ordinance in Amendment of the Thirty-sixth Chapter of the Revised Ordinances.

Section 27 of Chap. 36 of the Revised Ordinances is hereby amended by prefixing to the words in said section the following words: "No person shall swim or bathe, or permit any animal under his care to swim or bathe, in Fresh Pond."

[*Adopted June* 2, 1880.]

An Ordinance establishing the Salary of the Inspector of Vinegar.

SECTION 1. The salary of the Inspector of Vinegar shall be at the rate of one hundred and seventy-five dollars per annum.

SECT. 2. This ordinance shall take effect upon its passage.

[*Adopted Nov.* 3, 1880.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Chapter 6 of the Revised Ordinances is hereby amended by adding at the end of Section 24 the words: "The Committee on Finance shall employ such clerks, permanent and temporary, as may be necessary in the different departments. The duties and compensation of such clerks shall be determined by said committee, subject, however, to change at any time by order of the City Council. No head of a department shall employ any extra clerical assistance in behalf of the city without having first obtained the consent of the Committee on Finance."

[*Adopted Nov.* 3, 1880.]

An Ordinance in Amendment of an Ordinance in Relation to the Cambridge Public Library.

Chapter 7 of the Revised Ordinances is hereby amended by striking out the second section thereof, and inserting in its place the following: —

"SECT. 2. The care, superintendence, and management of said library shall be vested in a Board of Trustees, to consist of one member of the Board of Aldermen, one member of the Common Council, and five citizens at large, one of whom shall hold office for one year, one for two years, one for three years, one for four years, and one for five years, their several terms of office to be determined by lot, the same to be chosen in the month of January next; and annually thereafter in the month of January one citizen at large, whose term of office shall be for five years from the third Monday in said January, unless sooner removed."

Also, in the third section, by striking out the word "three" in the fifth line thereof, and substituting therefor the word "five," relating to the term of office of the trustees.

Also, by striking out the fourth section, and inserting in place thereof the following: —

"SECT. 4. Said trustees may choose from their number a chairman and secretary; they shall choose, annually, in the month of January, a suitable person to be librarian, who shall be removable at the pleasure of the board, and shall receive

such compensation as the trustees may from time to time determine."

The foregoing amendments shall take effect on the first Monday in the month of January, 1881, except that the trustees heretofore elected shall hold office until their successors are chosen and qualified.

[*Adopted Nov.* 17, 1880.]

An Ordinance in Amendment of an Ordinance in Relation to Sinking Funds.

Chapter 34 of the Revised Ordinances is hereby amended by striking out the last five lines of Section 4, and inserting in place thereof the following words:—

"And whenever any payment is so made before the thirtieth day of November, interest shall be paid thereon by the Commissioners of the Sinking Funds from the time of said payment until said thirtieth day of November, at such rates as the Committee on Finance shall from time to time determine."

[*Adopted Nov.* 17, 1880.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Chapter 1 of the Revised Ordinances is hereby amended by inserting in the eighth line of the seventh section thereof, after the word "repair," the words "and shade trees and public grounds;" also, in the fourteenth line of the same section, by striking out the words "shade trees and public grounds."

[*Adopted Nov.* 17, 1880.]

An Ordinance in Relation to the Compensation of the Assistant City Clerk.

Chapter 27 of the Revised Ordinances is hereby amended, as follows, viz.:—

"The salary of the Assistant City Clerk shall be twelve hundred dollars per annum, to date from Jan. 1, 1881."

[*Adopted March* 23, 1881.]

An Ordinance in Amendment of the Ordinance in Relation to the Water Works.

Section 25 of Chapter 39 of the Revised Ordinances is hereby amended by striking out the word "thirty," in the second line of the second paragraph, and inserting in place thereof the word "fifteen."

[*Adopted May* 18, 1881.]

An Ordinance in Amendment of an Ordinance in Relation to Streets.

Chapter 36 of the Revised Ordinances is hereby amended by adding, at the end of Section 26, the following: —

"Whoever shall be found in possession of a club or bludgeon, on any street, park, or way, with intent to use the same in sports, sham-fights, or strife, or to intimidate persons or horses, shall be fined not less than one dollar nor more than twenty dollars.

"Whoever shall be found in possession of toy-pistols, crotches, rubber slings, or other devices for throwing missiles of any kind, with intent to use the same to the injury of persons or property, or to the annoyance or discomfort of any person, upon any street, park, or way, shall be fined not less than one dollar nor more than twenty dollars."

[*Adopted Dec.* 7, 1881.]

An Ordinance in Amendment of an Ordinance in Relation to Streets.

Chapter 36 of the Revised City Ordinances is hereby amended as follows in Section 14, by inserting in the fifth line, after the word "aldermen," the words, "or some person by them authorized for that purpose."

Also, in Section 15, by inserting in the first line, after the word "aldermen," the words, "or some person by them authorized for that purpose."

[*Adopted Dec.* 28, 1881.]

An Ordinance in Amendment of an Ordinance in Relation to Sewers.

Sections 9 and 10 of Chapter 32 of the Revised City Ordinances are hereby repealed, the same being in relation to house drainage.

Section 12 of Chapter 32 of the Revised City Ordinances is hereby amended by striking out of the first line thereof the words, "and catch-basins."

[*Adopted Dec.* 28, 1881.]

An Ordinance in Amendment of an Ordinance in Relation to the Fire Department.

Chapter 16 of the Revised Ordinances is hereby amended by striking out the second section thereof, and inserting in its place the following: —

"SECT. 2. In the month of April, in the year eighteen hundred and eighty-two, there shall be appointed by the Mayor, with the approval of the Board of Aldermen, and the concurrence of the Common Council,—or, in default thereof, afterward, by a concurrent vote of the City Council, either branch acting first,—a chief engineer and three assistant engineers, who shall hold their offices until removed by the City Council, and until others are elected in their places. Whenever a vacancy occurs in either of the offices named herein the same shall be filled forthwith in the same manner as hereinbefore prescribed."

Also, by striking out the fifteenth section, and inserting in its place the following: —

"SECT. 15. The Mayor and Aldermen shall, in the month of January, in the year eighteen hundred and eighty-two, and whenever vacancies occur, appoint the several engine, hose, and hook and ladder companies, whose term of service shall continue until the respective appointees are removed by the Mayor and Aldermen, and others appointed in their places; and the members of said companies shall receive a warrant substantially like that prescribed for the engineers."

[*Adopted Dec.* 28, 1881.]

An Ordinance in Amendment of an Ordinance in Relation to Salaries.

Section 1 of Chapter 27 of the Revised Ordinances is so amended that from the first day of February, 1882, the compensation of members of the Fire Department shall be as follows:—

Chief Engineer, per year, twelve hundred dollars.

[*Adopted April* 5, 1882.]

An Ordinance in Relation to the Compensation of the Clerk of the Board of Engineers of the Fire Department.

The compensation of the Clerk of the Board of Engineers of the Fire Department shall be at the rate of twenty-five dollars per annum; such rate to take effect as of Jan. 1, 1882.

[*Adopted April* 5, 1882.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Section 24 of Chapter 39 of the Revised Ordinances is hereby amended by adding after the word "follows," at the end of the second paragraph, the words "*provided, however*, that the charge shall not be less than ten dollars for any one year; and *provided, further*, that when the water used by any one taker shall amount to more than five million gallons in any one year commencing with the first day of July, then the charge shall be at the rate of one cent for each one hundred gallons of the excess over that quantity."

[*Adopted April* 12, 1882.]

An Ordinance in Relation to the Salary of the Superintendent of Lamps

Chapter 27 of the Revised Ordinances is hereby amended as ollows:—

The salary of the Superintendent of Lamps shall be five hundred dollars per annum, to date from June 1, 1882.

[*Adopted June* 28, 1882.]

An Ordinance in Amendment of an Ordinance in Relation to Streets.

Section 25 of Chapter 36 of the Revised Ordinances is hereby amended by striking out the entire section, and inserting in place thereof the following:—

"The owner or tenant of any land abutting on any street, lane, court, square, or public place, where there is any footway or sidewalk, shall cause the snow falling on said footway or sidewalk in front of his said land, whether from any building or otherwise, to be removed therefrom within twenty-four hours after the same ceases to fall; and shall cause the ice which incumbers such footway or sidewalk to be removed or covered with sand or other suitable substance, so as to make the footway or sidewalk safe and convenient for travel. Any person failing to do so shall be fined not less than two nor more than twenty dollars."

[*Adopted July* 19, 1882.]

An Ordinance in Relation to the Boundaries of the several Wards, and the Number of Members of the Common Council to be elected in each Ward.

SECTION 1. The boundaries of the several wards shall, until the month of October, in the year eighteen hundred and eighty-seven, continue the same as now established, with the following exceptions:—

So much of the territory annexed from the town of Belmont as lies south of a line through the centre of Concord Avenue shall constitute a part of Ward One; and so much of said territory as lies north of such line shall constitute a part of Ward Five.

SECT. 2. The members of the Common Council shall be apportioned as follows: Ward One shall elect FOUR; Ward Two shall elect SIX; Ward Three shall elect FOUR; Ward Four shall elect FOUR; Ward Five shall elect TWO.

[*Adopted Oct.* 25, 1882.]

An Ordinance substituting the Words "Third District Court of Eastern Middlesex" for the Words "Police Court."

Wherever, in any ordinance of the city, the words "Police Court" occur, they are hereby stricken out, and the words "Third District Court of Eastern Middlesex" are hereby inserted in place thereof.

[*Adopted Nov.* 29, 1882.]

An Ordinance in Amendment of an Ordinance in Relation to Sewers.

Section 1 of Chapter 32 of the Revised Ordinances is hereby amended by adding at the end thereof the words: —

"Nor until the owner shall have paid to the city, as a charge for entering the public sewers, such a sum of money as the Mayor and Aldermen shall order; said sum to be not less than the amount which would be assessed upon the lands of such owner, upon the basis of the present ordinance in the case of a public sewer, less such an allowance for the cost of the private sewer as the City Engineer shall certify to the Mayor and Alderman is reasonable."

[*Adopted Dec.* 27, 1882.]

An Ordinance in Amendment of an Ordinance in Relation to the City Physician.

Chapter 25 of the Revised Ordinances is hereby amended as follows: —

By striking out the last twenty words of the first section providing a salary for the City Physician.

Also, by striking out the second section, and inserting in place thereof the following: —

"Sct. 2. There shall also be chosen annually, in the month of April, by the Overseers of the Poor, subject to the approval of the Mayor and Alderman, a physician, to be called the Assistant City Physician, who, under the direction of the Overseers of the Poor, shall act as the almshouse physician, and shall visit and prescribe for the sick poor in the city, outside of the almshouse. His salary shall be fixed by the City Council."

Also, by striking out the word "He," at the beginning of the third section, and inserting in place thereof the words, "The Assistant City Physician;" and the word "He," at the beginning of each subsequent section, shall be held to designate the Assistant City Physician only.

Also, by striking out the words "City Council" in the seventh section, and inserting in place thereof the words, "Overseers of the Poor."

Also, by striking out the eighth section.

[*Adopted Dec.* 27, 1882.]

An Ordinance in Amendment of an Ordinance in Relation to the Pay of City Laborers.

Section 11 of Chapter 1 of the Revised Ordinances is hereby amended by adding at the end thereof the words: —

"And provided further, that he shall, without action by the committee aforesaid, draw his order for the semi-monthly payment of the wages of the laborers employed in the Street Department; the amounts of such wages to be entered upon pay-rolls which shall be certified as correct by a majority of the Joint Standing Committee on Roads and Bridges; such amounts to be within the appropriation to which the same shall be chargeable."

[*Adopted Feb.* 19, 1883.]

An Ordinance in Relation to the Salaries of Certain City Officers.

Section 1. From and after the first day of February of the current year the salaries of the City Officers hereinafter named shall be as follows: —

Auditor of Accounts	$1,800	per year.
Treasurer of the Commissioners of the Sinking Funds	300	"
Clerk of Committees	2,000	"

Sect. 2. All Ordinances and parts of Ordinances inconsistent herewith are hereby repealed.

[*Adopted March* 19, 1883.]

An Ordinance in Relation to the Compensation of Members of the Fire Department.

SECTION 1. From and after February 1, 1883, the compensation of the members of the Fire Department shall be as follows:—

CALL MEN.

Assistant Engineers, each	$325 per year.
Foremen of Engine and Hook and Ladder Companies	194 "
Assistant Foremen of Engine and Hook and Ladder Companies	183 "
Members of Engine and Hook and Ladder Companies	172 "

PERMANENT MEN.

Engineers of Steam Fire-Engines	$90 per month.
Drivers of Steam Fire-Engines, Hook and Ladder Trucks, and Chemical Engine	75 "
Engineer of Chemical Engine	75 "
Fire-Alarm Telegraph Operator	90 "
Assistant " "	75 "

SECT. 2. All Ordinances and parts of Ordinances inconsistent herewith are hereby repealed.

[*Adopted March* 28, 1883.]

An Ordinance in Relation to the Salary of the City Messenger.

From and after the first day of April of the current year the salary of the City Messenger shall be at the rate of fifteen hundred dollars a year.

[*Adopted April* 9, 1883.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Section 25 of Chapter 39 of the Revised Ordinances is hereby amended, by striking out the word "fifteen" in the second

paragraph, and inserting in place thereof the word "ten;" also, by inserting after the word "hydrant" the words "or reservoir."

[*Adopted April* 9, 1883.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Section 1 of Chapter 1 of the Revised City Ordinances, relating to the Auditor of Accounts, is hereby amended by inserting after the end of the first sentence, the following: —

"He shall give a bond in such a form as the City Solicitor shall approve, with sufficient sureties, to be approved by the Mayor and Aldermen, in a sum not less than ten thousand dollars, which bond shall be executed, approved, and delivered before he enters upon the duties of his office, and within ten days after his election. Should he fail to give such bond within the time herein required the election shall be void, and a new election shall be had forthwith. In case of the death or insolvency of any of the sureties on any bond so given, the Auditor shall immediately give a new bond, with sufficient sureties, as hereinbefore provided; and, if he fails to give such new bond within a reasonable time after notice to do so, it shall be sufficient cause for his removal from office.

"*Provided, however*, that the first bond herein required shall be filed within ten days from the passage of this Ordinance."

[*Adopted April* 9, 1883.]

An Ordinance in Relation to Uniforms for the Permanent Men of the Fire Department.

Section 1. The permanent men of the Fire Department shall be required to furnish themselves with a suitable uniform, the same to consist of a cap, overcoat, undercoat, vest, and pantaloons, and to be of such materials, quality of goods, and pattern, as the Mayor and Aldermen may prescribe.

Sect. 2. This Ordinance shall take effect upon the first day of May, 1883.

[*Adopted April* 28, 1883.]

An Ordinance in Relation to the Compensation of Members of the the Police Force.

From and after the 25th day of March, 1883, the compensation of the members of the Police Force hereinafter named shall be as follows: —

Captains	$1,150 per year.
Sergeants	$2.87½ per day.
Policemen, after two years of service	$2.75 per day.
Policemen, until two years of service	$2.50 per day.

[*Adopted May* 14, 1883.]

An Ordinance Repealing an Ordinance in Relation to the Salary of the City Physician.

An Ordinance entitled "An Ordinance in Relation to the Salary of the City Physician," adopted March 3d, 1880, is hereby repealed.

[*Adopted June* 11, 1883.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Section 11 of Chapter 1 of the Revised Ordinances, as amended February 19th, 1883, is hereby further amended by adding at the end of such amendment the words: —

"And *provided further*, that he shall, without action of the committee aforesaid, draw his order for the semi-monthly payment of the wages of the laborers employed upon the city ledge and house-offal wagons, and in the sewer department, the amounts of such wages to be entered upon pay-rolls, which shall be certified as correct, as follows: those of the laborers upon the city ledge and house-offal wagons, by a majority of the board of overseers of the poor, and those of the laborers in the sewer department by a majority of the committee on sewers, such amounts to be within the appropriation to which the same shall be chargeable."

[*Adopted July* 30, 1883.]

An Ordinance in Relation to the Salaries of the Assistant Assessor.

The salaries of the Assistant Assessors shall be at the rate of four dollars per day, for services rendered; the same to take effect as of the year 1883.

[*Adopted Sept.* 17, 1883.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Chapter 39 of the Revised Ordinances is hereby amended as follows: —

In Section 13, by striking out the word "June" and by inserting in place thereof the word "April."

In Section 15, by striking out the word "July" in the second and fourth lines, and inserting in place thereof the word "May."

In Section 16, by striking out the word "August" in the seventh line and inserting in place thereof the word "June."

In Section 20, Regulation 6, by inserting after the word "registrar" the words "while the person liable for the water-rates is in possession of the premises."

In Section 24, in the list of rates under the head of Dwelling Houses, by striking out the figures $22.00, $30.00, and $35.00, and inserting in place thereof, respectively, the figures $18.00, $26.00, and $31.00.

[*Adopted April* 9, 1884.]

An Ordinance in Relation to the Salary of the Inspector of Milk.

The salary of the Inspector of Milk shall be four hundred and twenty-five dollars per annum, the same to date from the first day of January, 1884.

[*Adopted April* 28, 1884.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Section 11 of Chapter 1 of the Revised Ordinances is hereby amended by striking out the amendments thereto respectively

adopted Feb. 19, 1883, and July 30, 1883, and inserting in place thereof the following: —

And provided also that he shall, without action by the committee aforesaid, draw his order for the semi-monthly payment of the wages of all laborers employed in the various city departments, — the amounts of such wages to be entered in detail upon pay-rolls, which shall be properly certified by the board or committee, respectively, having control of the appropriation to which such amounts shall be chargeable.

[*Adopted May* 19, 1884.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Section 3 of Chapter 39 of the Revised Ordinances is hereby amended, by inserting in the eighth line thereof, after the word "Cambridge," the words "also by an Act of the said Legislature approved on the twenty-first day of May, A. D. 1884, entitled 'an Act to provide a further supply of water for the City of Cambridge.'"

[*Adopted July* 14, 1884.]

An Ordinance in Relation to the Salary of the Mayor.

From and after the first day of January, 1885, the salary of the Mayor shall be twenty-five hundred dollars per annum.

[*Adopted Sept.* 10, 1884.]

An Ordinance in Relation to the Salary of the City Engineer.

The salary of the City Engineer shall be three thousand dollars per annum, — to date from August 1, 1884.

[*Adopted Sept.* 10, 1884.]

An Ordinance in Relation to the Salary of the Superintendent of Lamps.

The salary of the Superintendent of Lamps shall be at the rate of six hundred and fifty dollars per annum, the same to take effect on the first day of September, 1884.

[*Adopted Nov.* 17, 1884.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Section 24 of Chapter 39 of the Revised Ordinances is hereby amended by inserting after the word "power" in the first line of the last paragraph the words "to prevent the erection of yard hydrants, and;"—so that the section will read, "The Board shall have power to prevent the erection of yard hydrants, and to establish such regulations as they may deem expedient," &c.

[*Adopted Dec.* 22, 1884.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Section 25 of Chapter 39 of the Revised Ordinances is hereby amended by striking out the words "and a half" from the third line of the second paragraph; making the charge for water used for watering streets at the rate of one cent per hundred gallons.

[*Adopted Feb.* 17, 1885.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Section 24 of Chapter 39 of the Revised Ordinances is hereby amended by striking out, at the end of the list of Water Rates, the words:

"Building Purposes:—For every cask of lime and cement used, six cents."

[*Adopted March* 24, 1885.]

An Ordinance in Relation to the Compensation of the Board of Assessors.

The compensation of the Board of Assessors shall be forty-five hundred dollars per year, to date from April 1, 1885,—and they shall devote their entire time to the duties of their office.

[*Adopted May* 8, 1885.]

An Ordinance in Amendment of an Ordinance in Relation to Streets.

Section 33 of Chapter 36 of the Revised Ordinances is hereby amended by striking out the words "Chairman of the Committee" in the fifth line of said section, and inserting in place thereof the words "City Treasurer."

[*Adopted May* 8, 1885.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Section Eleven of Chapter One of the Revised Ordinances, as amended July 30, 1883, is hereby further amended by adding the following paragraphs:

"And *provided further* that he shall without action by the Committee aforesaid, draw his order for the payment of the sums allowed as State and military aid, said sums to be entered upon pay-rolls, which shall be certified as correct by a majority of the Committee on Soldiers' Aid, and to be within the appropriation for State Aid."

"The City Treasurer shall pay all employés of the city, whose names are borne upon pay-rolls, either in person at the City Hall, or by sending a clerk or paymaster to pay such persons at the place where they are employed. He may also make the necessary arrangements for the transportation of such clerk or paymaster to the place aforesaid. The Mayor is hereby authorized to detail a police officer to accompany such paymaster while in the performance of his duty."

[*Adopted May* 19, 1885.]

An Ordinance in Relation to the Salary of the Assistant City Physician.

The salary of the Assistant City Physician shall be twelve hundred and fifty dollars a year, the same to take effect on the first day of July, 1885.

[*Adopted July* 14, 1885.]

An Ordinance in Relation to the Salary of the Chief Engineer of the Fire Department.

From and after the first day of June, 1885, the salary of the Chief Engineer of the Fire Department shall be at the rate of fifteen hundred dollars a year.

[*Adopted July* 14, 1885.]

An Ordinance in Relation to the Salary of the Clerk of the Common Council.

From and after the first day of January in the year 1886, the salary of the Clerk of the Common Council, shall be at the rate of three hundred dollars a year.

[*Adopted Oct.* 20, 1885.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Section 11 of Chapter 1 of the Revised Ordinances, as amended May 19, 1884, is hereby amended by inserting after the words "department," in the last paragraph of said Section, the words "and also the members of the Police Force and Fire Department, and the Janitors of Public Buildings."

[*Adopted Nov.* 10, 1885.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Section 8 of Chapter 1 of the Revised Ordinances is hereby amended by adding the following paragraphs:

"*Provided*, That no Committee, either of the Board of Aldermen or of the City Council, authorized to purchase materials or supplies, or to contract for labor to be performed, shall have the power to expend more than three hundred dollars for any one specific purpose, whether settlement for the same shall be made in one or more payments, unless specially empowered to make such expenditure by an order of the City Council, or of the Board of Aldermen in cases where that Board has sole jurisdiction."

"Every Committee authorized to purchase or contract to an

amount exceeding the sum of three hundred dollars, shall, unless otherwise directed, advertise for proposals to furnish materials, supplies, or labor, and shall award the contract therefor to the lowest responsible bidder, unless such Committee shall deem it advisable to reject all proposals received and advertise anew."

[*Adopted Dec.* 16, 1885.]

An Ordinance in Amendment of an Ordinance in Relation to Streets.

Section 14 of Chapter 36 of the Revised Ordinances, is hereby amended by adding at the end thereof, the following paragraphs:

"No person shall place upon any sidewalk any board or plank walk, without first obtaining a written license from the Mayor and Aldermen, or some person by them authorized for that purpose; and no walk laid under authority of such license shall be less than three feet in width, and the same shall be in sections of not more than twelve feet in length. The material used for such walks shall be of spruce, of not less than one and a quarter, nor more than two inches in thickness, and shall be planed to a uniform thickness upon the under side, and cross-tied at the length of every three feet, with two by six-inch pine. Such walks shall be constructed in accordance with a plan in the office of the City Engineer, and shall be subject to the approval of the Standing Committee on Roads and Bridges of the Board of Aldermen, and the Superintendent of Streets, and may be removed by them whenever in their judgment they may deem that the public safety and convenience require such removal.

"*Provided*, that exceptions may be made in relation to the requirement concerning the width of plank walks, in cases where the sidewalk is too narrow to admit of the prescribed width, and in such cases the Standing Committee on Roads and Bridges, of the Board of Aldermen, shall be authorized to make and allow any necessary change.

"Plank walks, authorized as hereinbefore provided, shall be laid and kept in proper condition by the respective owners thereof, and the same shall be taken up by such owners during the spring months whenever the Committee aforesaid and the Superintendent of Streets shall so direct."

[*Adopted Dec.* 16, 1885.]

An Ordinance in Amendment of an Ordinance in Relation to Water Works.

Section 19 of Chapter 39 of the Revised Ordinances is hereby amended by striking out the entire section and inserting in place thereof the following:

"SECT. 19. No person shall injure any public pipe, reservoir or fire hydrant connected with the Water Works or shall break and enter the same, or draw off, or cause to be removed, any of the water therefrom; or shall turn on or off the water in any such water pipe, reservoir or fire hydrant, or shall make any opening or connection with such pipe, reservoir or fire hydrant, or remove the cover of any hydrant, except in case of fire, without the license or permit of the Water Board or by authority of the Mayor and Aldermen, — and then under the direction of the Superintendent of the Water Works, who shall provide competent men to perform the same; and the expense thereof shall be charged to the person or department applying for such license or permit."

[*Adopted Dec.* 23, 1885.]

An Ordinance in Amendment of an Ordinance in Relation to the Cambridge Cemetery.

Sections 1 and 2 of Chapter 5 of the Revised Ordinances are hereby amended, by striking therefrom the word "*six*" wherever the same occurs, and inserting in its place the word "*four.*"

[*Adopted Dec.* 30, 1885.]

An Ordinance in Amendment of an Ordinance in Relation to Streets.

Section 16 of Chapter 36 of the Revised Ordinances is hereby amended by adding at the end thereof the following:—

"Whenever any department of the City or any corporation, or person, shall lawfully make or authorize to be made, any opening, or cause any obstruction, in any street, lane, alley, sidewalk, or other public place, such department, corporation, or person, shall, within one week from the time of making such opening or causing such obstruction, give notice thereof, in writing, to the

Superintendent of Streets, and shall be held responsible for any damages that may result from such opening or obstruction for a period of six months from the time of making the same."

[*Adopted Dec.* 30, 1885.]

An Ordinance in Relation to the Inspection and Construction of Buildings.

SECTION 1. The mayor and aldermen shall annually, during the month of January, appoint a superintendent of public buildings who shall be ex-officio inspector of buildings.

He shall be an able and experienced architect, builder, or mechanic, and shall not be employed or engaged in any other business, or be interested in any contract for building or for furnishing materials.

He shall be removable for cause at the pleasure of the mayor and aldermen, and a vacancy may be filled at any time for the unexpired term. He shall receive such compensation for his services as the city council may from time to time determine.

DUTIES OF THE SUPERINTENDENT OF PUBLIC BUILDINGS.

SECT. 2. The said superintendent, under the direction of the committee on public property, shall superintend the construction of all buildings erected by the city, and all repairs upon all city buildings, and see that the conditions of the contracts, and the plans and specifications, if any, are faithfully carried out.

SECT. 3. He shall, under the direction of said committee, have the care and custody of all the buildings belonging to the city; shall keep himself acquainted with their condition; shall employ suitable mechanics to make such alterations or repairs as may be ordered on the same; and in general, shall render such services in relation to such buildings as may be required of him by said committee.

SECT. 4. He shall keep an accurate record of all buildings belonging to the city and lands appurtenant to such buildings, and in the month of December in each year, he shall present to the city council a report in relation to the same, showing their condition and the nature and amount of expenditures that shall have been made upon them during the year next preceding, and

a statement of the nature and extent of the repairs that in his opinion should be made during the next succeeding twelve months, and an estimate of the probable cost of the same.

DUTIES OF THE INSPECTOR.

SECT. 5. In his capacity of inspector of buildings he shall examine all buildings in the course of erection, alteration or repair, to ascertain if the ordinances of the city are being complied with; he may require plans and specifications or description of any proposed erection or alteration of any building, and shall grant permits for such erection or alteration when the plans and specifications or description are in conformity with the ordinances of the city and laws of the State; shall enter upon the premises wherein any fire has occurred to ascertain the origin of the fire, and keep a correct record of the business of the department, including all violations of the city ordinances relating to buildings, and shall submit to the city council in the month of December of each year a report of the department of building inspection for the preceding year.

SECT. 6. Upon being informed that any building is in a dangerous or unsafe condition, from damage by fire or accident, or from any other cause, he shall at once proceed to examine the same, and if in his judgment it is in a dangerous or unsafe condition, he shall forthwith notify in writing, the owner, agent, or any person having an interest therein to remove the same, or make it safe and secure, and he shall also notify the Board of Aldermen of the condition of such building, and shall generally perform such duties as may be required of him by the Board of Aldermen.

SECT. 7. The inspector shall examine all churches, halls, or other buildings or structures, used, or intended to be used temporarily or permanently, for any public use, and all school-houses or school-rooms, public or private, and buildings used, or intended to be used, for manufacturing purposes, and if he finds that any of said buildings or rooms are deficient in proper facilities of egress, in case of fire or accident, either in number, width, construction or arrangement of the entrances, aisles, passageways, or stairways, or by reason of inner doors opening inward, or from any other cause whatever arising from the manner of construc-

tion, alteration or repair of the premises, he shall at once notify the State inspector of factories and public buildings.

SECT. 8. Whenever it appears to the inspector that, in any of the buildings or structures, or portions thereof, mentioned in the foregoing section, the security of the public is temporarily endangered by the use of combustible stuff or materials; or that benches, chairs, stools, or other obstructions are temporarily placed in the aisles or passageways thereof in such a manner as to prevent free egress in case of fire or accident during the time when the same may be opened to the public; or that benches, chairs, or settees are temporarily so arranged as not to afford proper egress in case of fire or accident; or that outer doors opening inward are not kept open when such buildings or structures are used by the public; then, and in either of said cases, the inspector shall notify the person for the time being having charge of the premises, and require such person at once to make the premises safe; and if he refuses or neglects so to do, he shall be liable to a penalty of not less than twenty nor more than one hundred dollars for each offence, and the inspector shall remove the obstructions.

SECT. 9. All outer doors of buildings and structures mentioned in section eight of this ordinance shall be kept open when such buildings or structures are used by the public, unless such doors open outwards, and except that fly doors opening both ways may be kept closed. All inner doors of such buildings and structures shall be made so as to open outward, and said inspector is hereby authorized to enter any of such buildings or structures at all reasonable hours for the purpose of ascertaining whether or not any of the provisions of this ordinance are being violated.

SECT. 10. No work, except necessary repairs, shall be done upon any wall, structure or building without a permit from the inspector of buildings.

SECT. 11. The inspector shall not give a permit for the erection or alteration of any building until he has carefully inspected the plans, specifications or descriptions thereof, ascertained that the building has sufficient strength and that the means of ingress and egress are sufficient. A copy of the plans and specifications of every public building hereafter erected shall be deposited in the office of the inspector.

SECT. 12. The inspector shall designate, in every permit for the erection of a new building, the lowest grade at which the floor of the basement story of said building may be laid.

FOUNDATIONS.

SECT. 13. The foundation walls of all dwelling houses hereafter erected, if made of common stone, shall be not less than twenty inches thick at the bottom, and sixteen inches at the top (the slope to be upon the outside of the wall,) and shall be laid in mortar made of at least one part cement to three parts lime, mixed with clean sharp sand in the proportion of at least one part cement and lime to two parts sand; and if made of block stone laid in horizontal courses, or of bricks laid in cement upon stone levellers, not less than twenty inches broad and twelve inches thick, said foundation walls shall be not less than sixteen inches thick, or twelve inches thick with buttresses not less than twelve inches wide as often as once in ten feet, which shall project four inches at the top, and at the bottom a sufficient distance to give a batter of one in ten.

SECT. 14. The foundation walls of all buildings (other than dwelling houses) hereafter erected with external walls not exceeding thirty-five feet in height above the foundation walls, if made of common stone, shall be not less than thirty inches thick at the bottom, and diminish in thickness two inches in every perpendicular foot (the slope to be upon the outside of the wall), and shall be laid in mortar the same as hereinbefore provided for the foundations of dwelling houses; and if laid of block stone in horizontal courses, or of brick laid in cement upon stone levellers not less than thirty inches broad and twelve inches thick, they shall be not less than twenty-four inches thick.

SECT. 15. The foundation walls of all buildings, (other than dwelling houses), hereafter erected with external walls exceeding thirty-five feet in height above the foundation walls, if made of common stone, shall be not less than thirty-five inches in thickness at the bottom, and diminish in thickness at the same rate and in the same manner as hereinbefore provided for walls thirty inches thick at the bottom, and shall be laid in mortar the same as hereinbefore provided for the foundation walls of dwelling houses; and if made of block stone laid in horizontal courses

they shall be not less than twenty-eight inches thick. All foundation walls shall be laid at least four inches below the bottom of the cellar.

SECT. 16. Whenever piles are required to be driven for a foundation, except as provided in the next section, they shall be of suitable stock, driven to a firm and solid bearing, and the tops shall be cut off on a level to insure constant immersion. There shall be not less than two rows under all external and party walls, and they shall be spaced not over three feet on centres in the direction of the length of the wall.

SECT. 17. Wooden structures not otherwise described herein for dwellings, manufacturing or business purposes, not exceeding two stories in height, may be built on stone or brick foundations, on piers or posts, each set on a hard bottom, but to a depth of not less than four feet below the surface of the ground, or on piles well driven to a hard bottom, said piers, posts and piles to be spaced not more than eight feet on centres; or on mud-sills, resting on cross-pieces of plank three inches or more in thickness, not less than four feet long and ten inches wide, placed at intervals of not more than ten feet on centres.

EXTERNAL WALLS.

SECT. 18. The external walls of all brick dwelling houses hereafter erected, if not more than twelve feet high above the foundation walls, shall be not less than eight inches thick for their entire height; if two stories and not more than twenty-five feet in height above the foundation walls, they shall be not less than twelve inches thick to the top of the second floor, and not less than eight inches thick for the remaining height; and if three stories and more than twenty-five feet in height, they shall be not less than twelve inches thick to the top of the third floor, and not less than eight inches thick for the remaining height.

SECT. 19. The external walls of all brick buildings, other than dwelling houses, to be hereafter erected in this city, if not more than thirty-five feet in height above the foundation walls, shall be not less than sixteen inches thick to the top of the upper floor, or for two-thirds of their height, and not less than twelve inches thick for the remaining height; and if more than thirty-five feet in height, they shall be not less than twenty inches

thick to the top of the second floor, or for one-half their height, not less than sixteen inches thick to the top of the third floor, or three-fourths of their height, and not less than twelve inches thick for the remaining height.

PARTY WALLS.

SECT. 20. No buildings hereafter erected, except manufactories, hotels, apartment hotels, so called, churches, school houses and halls for public assemblies shall extend in a range or have a frontage of more than fifty feet without at least one brick party wall, not less than eight inches thick for its entire height, and extending from the bottom of the cellar, or from a foundation wall constructed as provided in section fourteen, to the under side of the roof boarding which shall be laid and be imbedded in mortar upon said wall; *provided*, however, that dwelling houses intended for single families may be extended more than fifty feet in one direction without such party wall.

SECT. 21. No wooden building to be used for the purposes of a dwelling-house, shall be built at a less distance than two feet from any other wooden building, without the intervention of a brick wall, where the united width of the two buildings exceeds forty feet; *provided*, that a wooden L, not exceeding thirty feet in length, fifteen feet in width, or an equivalent number of feet in area, and not more than twenty-five feet in height above the sill of the main building, may be built without the intervention of a brick wall between the said L and the main building.

SECT. 22. Party walls of brick in all buildings, other than dwelling houses, hereafter to be erected in this city with external walls not exceeding thirty-five feet in height, shall be not less than sixteen inches thick to the top of the second floor and not less than twelve inches for the remaining height, and in buildings having external walls exceeding thirty-five feet in height, said party walls shall be not less than twenty inches thick to the top of the second floor, not less than sixteen inches thick to the top of the third floor, and not less than twelve inches thick for the remaining height.

SECT. 23. No opening or doorway shall be cut through or formed in a party wall of any building, without a permit from the inspector of buildings, and every such doorway shall have

top, bottom, and sides of stone, brick, or iron, and shall be closed by two doors, or sets of doors, of wrought iron, or of wood covered with metal, with an air space between them of at least four inches, and said doors shall be hung in rabbeted iron frames, or in wooden frames entirely covered with metal, or to iron hinges in brick or stone rabbets.

PIERS AND COLUMNS.

SECT. 24. All piers shall be built of the best quality of good, well burnt hard brick, laid in cement and sand mortar, and well wet when laid in warm weather. Brick piers under lintels, girders or columns of brick buildings shall have a cap iron at least two inches thick, the full size of the pier. Brick piers and buttresses shall be bonded with through courses, levelled and bedded, each course, and where their foundations rest upon piles, a sufficient number shall be driven to insure a proper support.

SECT. 25. Every metal column in a brick building shall rest on an iron plate of not less thickness than two inches. Wooden columns supporting girders and floors in such buildings shall rest on inch and a half iron plates with sockets to receive the foot of the columns. Metal columns placed one on the top of another shall have a plate at the top of each column, with projections on both sides to fit into cap and base of columns, to prevent slipping; and all columns shall have holes bored, where directed by the inspector, into and through the shell at right angles to the shaft, so as to show the thickness of shell. All bearing parts of columns and plates shall be turned or planed to true surfaces.

GRADE OF CELLARS AND BASEMENTS.

SECT. 26. No cellar or basement cellar of any building shall be constructed below the grade of thirteen feet above mean low water; *provided, however*, that the Board of Aldermen may, by license, subject to revocation at any time by them, authorize cellars or basement cellars to be constructed in buildings, no part of which is to be used as a dwelling, so much below said grade as they may designate in each license.

SECT. 27. All buildings built upon filled or made land shall have a bed of concrete, of hydraulic cement and gravel, or tar and gravel, or asphalt, not less than two inches in thickness,

spread over the cellar bottom, or shall be paved with brick laid in cement, throughout the whole extent of the building; and where there is a basement floor over the cellar bottom, with an air space between the concrete and said floor, the air space shall be properly ventilated.

CONDUCTING WATER FROM ROOFS OF BUILDINGS.

SECT. 28. All brick buildings shall be kept provided with suitable water-tight metallic leaders, and all other buildings with water-tight metallic or wooden leaders for conducting the water from the roof to the ground, and all water shall be conducted from a building to the street, gutter or sewer in such a manner as not to flow upon the sidewalk.

BONDING OF WALLS.

SECT. 29. In every brick wall in buildings hereafter erected, every ninth course of brick shall be a heading course, except in walls built with some bond in which as much as every ninth course is a heading course, and except where walls are faced with face-brick, in which case every ninth course shall be bonded with Flemish headers, or by cutting the course of the face-brick, and putting in diagonal headers behind the same, or by splitting face-brick in half and backing the same by a continuous row of headers. The front, rear, side, end and party walls of all brick buildings hereafter erected shall be anchored to each other every ten feet in their height by tie anchors, made of at least one and a quarter inch by three-eighths of an inch wrought iron.

TIMBERING OF FLOORS.

SECT. 30. All floors shall be constructed to bear a safe weight, per superficial foot, exclusive of materials, as follows: For dwellings, tenements or lodging houses, one hundred pounds; for buildings for light mechanical purposes, and for public buildings, one hundred and fifty pounds; for storehouses, warehouses, machine shops, armories, drill rooms and riding schools, not less than two hundred and fifty pounds. These requirements shall apply to all alterations, as well as to new buildings.

SECT. 31. Every header more than four feet long, used in any building except a dwelling, shall be hung in stirrup irons, of suitable dimensions for the size of the timbers, and securely joint-bolted. All tail beams shall be properly framed or hung to headers.

SECT. 32. The ends of all floor beams and rafters of a brick building entering a wall shall be cut on a splay of three inches in their width.

SECT. 33. No floor timber, header or trimmer of a brick building shall be cut into more than two inches in depth for piping, without a permit from the inspector, and no cutting shall be made in any timber at a greater distance than three feet from its support.

CHIMNEYS AND HEATING APPARATUS.

SECT. 34. All chimneys, hereafter erected shall be built from the ground, of brick, stone or other fire-proof non-conducting materials, and shall be built plumb, or nearly so, so as to be self-sustaining; *provided*, however, that brick flues may be securely built into the brick work of the walls of the building to which they are hung, when the walls are not less than twelve inches thick; *and provided also*, that upon special permission, first obtained from the Board of Aldermen, chimneys may be built upon cast iron or hard pine columns set upon iron plates at least one and one-half inches thick with sockets and capped at their upper ends with a metal plate at least two inches thick and not more than two inches shorter upon either side than the corresponding sides of the chimney; or upon permission being obtained as above, chimneys may be built upon a flooring of masonry supported by iron beams, which have secure bearings on masonry or iron at each end, the same to be constructed in all respects to the satisfaction of the inspector of buildings; *and provided also*, that the matter of the construction of chimneys in small wooden buildings, other than dwelling houses, not more than one story and a half in height shall be left to the decision of the inspector of buildings, but must be constructed in accordance with his instructions and to his satisfaction.

SECT. 35. All brick chimney-flues shall be smoothly plastered inside with mortar from top to bottom, and outside below the roofing, after having been examined and approved by the inspector of buildings; except that exposed portions of said chimneys when the walls of the flues are eight inches thick may be left unplastered. Said chimneys shall be topped-out with brick or stone, and the topping-out shall not have more than two inches projection, unless the bricks are covered by a cap of stone or other non-combustible material in one piece, properly secured, and approved by the inspector; and in no case shall a nail be driven into the masonry of any flue.

SECT. 36. The shell of all flues for boilers, ovens, and ranges set in brick, shall hereafter be of brick work eight inches thick, or its equivalent, to the top of the first floor above said boilers, ovens, or ranges. Ranges set in brick and boilers shall have the outside of their flues exposed without covering, except by plastering directly upon the bricks, up to the ceiling of the room, and no wood work shall be placed on the outside of the same.

SECT. 37. No wood work of any kind, except the roof covering, shall be placed at a less distance than one inch from the outside of the brick work of any flue. No wood work shall be placed at a less distance than one inch from any tin or other metal flue or pipe, used, or intended to be used to convey heated air in any building, unless such flue or pipe be cased with metal sleeves of larger diameter than said flue or pipe, so as to permit a free circulation of air all round the same.

SECT. 38. No soft bricks shall hereafter be used in the construction of any wall, chimney, or flue referred to in this ordinance.

SECT. 39. No smoke-pipe in any building with wooden or combustible floors or ceilings shall hereafter enter any flue, except at a distance not less than twelve inches from said floor, or ceiling; and in all cases where smoke-pipes pass through stud or wooden partitions of any kind, whether the same be plastered or not, they shall be guarded by a soapstone ring having a thickness radial to said pipe of not less than two inches, and extending through said partition, and in cases where smoke-pipes pass through wood work of any kind in such near proximity to the brick work of the flue that the space between said wood work

and flue is inaccessible, said pipe shall be guarded by a soapstone ring or thimble, or its equivalent, having a thickness of at least two inches, and extending from the outer face of said wood work to a point at least two inches within the brick work of the flue in which it shall be firmly set.

SECT. 40. All hearths shall be supported upon trimmer arches of brick or stone, or upon bars of iron supporting a bed of brick work and shall be at least twelve inches longer than the width of the fireplace openings and at least eighteen inches wide in front of the chimney breast.

SECT. 41. No furnace, or range set in masonry shall hereafter be placed, or its location changed in any building, without a permit from the inspector of buildings, who shall prescribe such regulation for the setting or placing thereof as in his judgment the public safety may require.

SECT. 42. The top of every heating furnace not set in brick shall be kept at least six inches below the beams or ceiling, with a shield of tin plate, made tight, suspended not less than two inches below the said beams or ceiling, and extending at least one foot beyond the top of the furnace on all sides. If the furnace is set in brick and the ceiling is plastered, or the beams are covered with metal, the top of the brick work may be kept within not less than six inches of the ceiling or beams without the intervention of the tin-plate shield.

SECT. 43. No steam heating apparatus shall be placed in any dwelling house now or hereafter built without a permit from the inspector of buildings, who shall prescribe such regulations for the setting or placing of the same as in his judgment the public safety may require.

SECT. 44. No furnace for melting iron or making glass, and no stationary steam engine or steam boiler to be used for mechanical purposes and in which any other fuel than coal is used or to be used shall be hereafter erected or put up to be used without a license first obtained from the Board of Aldermen; and in no case shall a stationary engine propelled by steam or other motive power be hereafter erected or put up for use within five hundred feet of a dwelling house or public building unless a license therefor has first been obtained from the Board of Aldermen, and upon the granting of such a license in either of the

cases referred to in this section, the person or persons receiving it shall, before setting, erecting or placing said boiler, engine or furnace, obtain a permit from the inspector of buildings, who shall prescribe such regulations for the setting or placing thereof as in his judgment the public safety may require.

SECT. 45. No smoke-pipe or flue shall project through any external wall or through any window, door or other opening in said wall.

SECT. 46. All floor timbers, headers and trimmers of every brick building hereafter erected, or altered, in which a chimney is built in a brick wall, shall be placed distant at least two inches from the outside of every chimney flue, and the space between such timbers and the brick work of the chimney shall be closed by a proper fire stop of incombustible material.

SECT. 47. If any chimney, flue or heating apparatus on any premises, in the opinion of the inspector, endangers the premises, he shall at once notify in writing the owner or agent of such premises. If such owner or agent fails for a period of forty-eight hours after the service of said notice upon him to make such chimney, flue or heating apparatus safe, he shall be subject to a fine of not less than ten dollars nor more than fifty dollars.

SECT. 48. No boiler to be used for steam motive power, and no furnace for melting metal or making glass, shall be placed on any floor above the cellar or basement, unless the same is set upon masonry built up from the ground, or upon iron beams supported upon masonry, and all wood work and timbers shall be removed from the floor under the same.

HOT AIR REGISTERS.

SECT. 49. All hot-air register boxes hereafter placed in the floors or partitions of buildings shall be set in soapstone borders not less than two inches in width, firmly set in plaster of Paris or gauged mortar, or in such other protection as shall in the judgment of the inspector be equivalent to soapstone; shall be made of tin-plate with a flange on the top to fit the rabbet in the soapstone, and shall have an open space of one inch on all sides extending from the under side of the ceiling below the register, or the back side of the partition to the soapstone in the

floor or partition; the outside of said space to be covered with a casing of tin-plate, tight on all sides and extending from the under side of said ceiling or back side of said partition, to and turn under the said soapstone; but register boxes of fifteen by twenty-five inches or more in size shall have a space as above of two inches.

FIRE GUARDS.

SECT. 50. The insides of all furred brick walls of every brick building hereafter erected shall have a fire belt or stop, composed of some fire-proof material, at least six inches wide and thoroughly set up between furrings at the top of each floor and in each story, in which stud walls or partitions are constructed, and rest on walls or other partitions: said stud walls and partitions shall have the spaces between the floor joist immediately under such walls or partitions, and between studs from the undersides of said floor joists to a line six inches above the tops of said joists filled solid and flush with the plastering on both sides with mortar, cement, plaster or other incombustible material; and if such studs or partitions shall rest upon solid timber or joists for the whole length thereof, such filling as above described shall be placed from the top of such timber or joists to the same height as above specified; or a strip of tin or galvanized iron, at least one inch wider than the width of said studding, and continuing under the footing of said walls or partitions, may be substituted for the filling above specified, where there is no partition or wall beneath. The spaces between stringers or carriages of all wooden staircases, unless said stringers or carriages are left exposed, shall be closed at intervals not exceeding three feet by substantial stops of incombustible material.

SECT. 51. The various forms of construction tending to create or form air passages from one story to another, such as spaces around pipes, ventilating shafts, or chimneys furred off to form breasts, in every brick building hereafter erected or altered, shall have a fire and smoke stop of incombustible material at each floor, approved by the inspector. All ventilation ducts shall be of incombustible materials.

SECT. 52. No bay-window or balcony shall be built upon the front wall of any building so as to project over the line of the street, without a special license therefor from the board of aldermen.

SECT. 53. Whenever any person is about to erect or alter the exterior walls of a building, within five feet of the line of a travelled street, he shall cause the portion of the site of the building bordering upon the street, to be enclosed by a proper fence not less than four feet high, and at least seven feet from the line of such building; and if such fence prevents passage on the sidewalk, shall lay and maintain a plank walk around the same not less than thirty inches wide; and the fence shall be made as much higher and the walk as much wider as the inspector of buildings shall direct, and the same shall be maintained until all liability to accident from falling materials ceases. No person shall erect, or continue when erected, any staging in any highway, for the purpose of repairing or erecting a building without first obtaining permission from the inspector of buildings, and all such staging shall be so erected and secured as to be safe and sufficient for the purpose for which it was erected. In erecting any building, no person shall place, deposit or suffer to remain in any street or highway, any lumber or other building material, rubbish or remains of any old building, for a longer period than may be necessary for the prosecution of the work which may be going on; and in case such material, rubbish or remains of an old building shall necessarily remain after dark, a sufficient light shall be placed over or near the same, and kept from sunset to sunrise. All rubbish from the erecting or repairing of any building, or the removal of an old building, shall be carried away by the person so erecting or repairing such, building at such time as the surveyors of highways may direct, and in case of neglect or refusal so to do, it shall be removed by the surveyors of highways at the expense of such person. Any person violating any provision of this section shall pay a fine of five dollars.

SNOW GUARDS ON ROOFS.

SECT. 54. Every building hereafter erected upon the line, or within five feet of the line of any street, square, court, place or other travelled way, and having a slated pitch roof sloping towards said street, square, court, place or travelled way, shall be provided with suitable snow barriers or guards upon said roof to prevent the snow sliding therefrom, the same to be constructed and applied to the satisfaction of the inspector of buildings.

PLUMBING AND HOUSE DRAINAGE.

SECT. 55. No person shall carry on the business of plumbing in this city, unless he first registers his name and place of business in the office of the inspector of buildings, and notice of any change in the place of business of a registered plumber shall be immediately given to the inspector.

SECT. 56. On every street provided with a common sewer the sewerage from each building on said street shall be conducted into such sewer.

SECT. 57. That portion of the house drain which is outside of the building and more than four feet from the foundation walls shall be constructed of iron pipe or vitrified drain pipe.

SECT. 58. That portion of the drain pipe outside or under the building and within four feet of the foundation walls, together with the soil pipe, shall be constructed of cast iron with leaded joints. The waste pipe connected with the conductors from the roofs, and other pipes inside the building or outside and within four feet of the foundation walls, shall be constructed of iron with leaded joints.

SECT. 59. The house drain and other pipes for the conveyance of sewage shall be laid with uniform grade and with a fall of not less than one inch in four feet, except in those cases where the city engineer may otherwise permit.

SECT. 60. The main house drain shall be provided with a trap with a suitable clean-out, which shall be located either outside or inside the foundation walls of the building and beyond all house connections. All pipes connecting a water-closet with a soil pipe shall be trapped, each separately and close to the connection of each water-closet. All waste pipe shall be trapped, each separately, and close to the connection with each bath, sink, bowl or other fixture.

SECT. 61. All soil pipes shall be carried at their full size through the roof and left open. A provision shall also be made for admitting air to the house drain, side of the main trap.

SECT. 62. Waste pipes from refrigerators or other receptacles in which provisions are stored, shall not be connected with a drain, soil pipe or other waste pipe.

SECT. 63. The joints in the vitrified pipe shall be carefully cemented, under and around the pipe, and the joints in the cast iron pipe shall be run and calked with lead.

SECT. 64. All changes in direction shall be made with curved pipes, and all connections shall be made with Y branch pipes.

SECT. 65. All joints and pipes shall be made air tight. Connections of lead pipe with iron pipe shall be made with brass ferrules, properly soldered and calked to the iron. The whole work to be executed by skilful mechanics in a thorough and workmanlike manner, and satisfactory to the board of health.

SECT. 66. No steam-exhaust shall be connected with any soil or waste pipe, or drain which communicates with a public sewer.

SECT. 67. All drains now built shall be reconstructed, whenever in the opinion of the Board of Health, it may be necessary.

SECT. 68. In the construction of this ordinance the following terms shall have the respective meanings hereinafter assigned them:

"Foundation wall" shall apply to that part of the outer wall of a building, other than a party wall, below the level of the ground outside said wall.

"External wall" shall apply to that part of the outer wall of a building, other than a party wall, above the foundation wall.

"Party wall" shall apply to every wall used or built as a separation of any building from any other building, or of any dwelling house from any other dwelling house.

"First floor," "second floor," and "third floor" shall be understood to mean respectively the first floor, second floor, and third floor above the cellar or basement.

The thickness of walls required by this ordinance shall be understood to apply in every case to solid masonry, exclusive of any air space.

"Chimney" shall apply to any permanent or fixed flues or passages, built into any building for conveying away the products of combustion from furnaces, stoves, boilers, ranges or fire-places.

"Apartment hotels" shall apply to buildings in which two or more families are provided with suites of rooms for housekeeping on each floor and using a common entrance.

SECT. 69. Whoever violates any provision of this ordinance

shall be liable to a penalty of not more than fifty dollars, unless another penalty is specifically provided herein.

SECT. 70. The provisions of this ordinance shall not apply to buildings and structures owned or occupied by the United States or by the state of Massachusetts, nor to bridges, quays and wharves.

SECT. 71. Chapter three, and section seventeen of chapter thirty-six, of the city ordinances, and section twenty-one of the rules and orders of the board of aldermen are hereby repealed.

[*Adopted Dec.* 30, 1885.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Section 25 of Chapter 1 of the Revised Ordinances is hereby amended by striking out the word "two" in the third line, and inserting in place thereof the word "three."

[*Adopted Dec.* 30, 1885.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

Chapter 1 of the Revised Ordinances is hereby amended by striking out the ninth, tenth, eleventh and twenty-first sections of said chapter, and inserting in place of said sections, respectively, the following: —

SECT. 9. The pay-rolls of city employés shall be made up to the first and fifteenth days of each month; and the pay-days at City Hall shall be on the tenth and twenty-fifth days of each month, except that in case either of said days occurs on Sunday, or upon a legal holiday, then the next succeeding day shall be pay-day; and the several boards and committees above mentioned shall hold regular meetings on or before the fifth and twentieth days of each month for the examination and approval of bills. They shall keep a record of all contracts and obligations entered into by them, the dates of the same, with the names of the parties and the amounts of such contracts and obligations, when the same are known, and also of the names of the persons whose bills are approved, and of the dates and amounts of said bills. A majority of each of said

boards and committees, except the school committee, shall certify, by their signatures upon such bills, their approval of the same, and pass them to the auditor on or before the mornings of the sixth and twenty-first days of each month. All bills approved by the school committee shall be certified by the secretary, and at least three members of that board. No bill shall be approved by any board or committee except at a meeting of which all the members have been notified, and at which there is a quorum present.

The chairmen of the several committees shall furnish to the committee on accounts semi-monthly statements, as far as practicable, of the amount of all outstanding contracts and bills chargeable to their several appropriations, which statements shall be passed to the auditor with the bills, and addressed to the committee on accounts.

COMMITTEE ON ACCOUNTS.

SECT. 10. There shall be appointed in the month of January annually a joint standing committee on accounts, to consist of two members of the board of aldermen and three members of the common council; which committee shall meet at least two days before each of the pay-days mentioned in the preceding section, and carefully examine all accounts and claims against the city which shall be laid before them by the auditor, and after comparing them with his record, shall allow and pass the same if found to be properly entered; but no bill shall be allowed or passed by said committee unless the same shall bear the written signatures of a majority of the board or committee (other than the school committee of which the certificate of the secretary and three members at least shall be required) authorized on behalf of the city to make the contract, or cause the expenditure to be made; and when the committee on accounts has any doubt concerning the propriety of such bill or account, it shall return the same to the board or committee approving for explanation; and if not satisfactorily explained it shall be exhibited to the city council, with the objections, at the next meeting thereof for its consideration and final decision.

The committee on accounts shall direct the auditor and the treasurer and collector as to the manner in which the books,

records, accounts and papers belonging to their several departments shall be kept.

PAYMENT OF MONEY.

SECT. 11. The Mayor is hereby authorized to draw orders on the Treasurer for the payment of all accounts and claims allowed and certified by the committee on accounts as provided in the preceding sections and no other; *provided, however*, he may, without action by the committee on accounts draw his order to pay any sum by way of advance on contracts made, or on work begun and not completed, upon being satisfied of the necessity therefor by a certificate signed by a majority of the committee controlling the expenditure, within the sum specially appropriated therefor by the City Council, or upon the express order of the City Council.

SECT. 21. Heads of departments shall furnish semi-monthly pay-rolls of employés in their respective departments, stating the name and residence of each employé, the time for which payment is to be made, the rate of wages, and the amount due him, and submit the same for approval to the proper board or committee named in section 7 of this chapter, on or before the fifth and twentieth days of each month; and the Treasurer shall in person, or by his clerk, make payments to such employé, his authorized agent or attorney; shall take therefor the receipt of no other person than such employé, agent or attorney. The City Treasurer shall pay all employés of the city whose names are borne upon pay-rolls, either in person at City Hall or by sending a clerk or pay-master to pay such persons at the place where they are employed. He may also make the necessary arrangements for the transportation of such clerk or pay-master to the place as aforesaid. The Mayor is hereby authorized to detail a police officer to accompany such pay-master while in the performance of his duty.

All ordinances and parts of ordinances inconsistent herewith are hereby repealed.

[*Adopted Dec.* 30, 1885.]

An Ordinance in Amendment of an Ordinance in Relation to Accounts and Finance.

The Ordinance passed December 30, 1885, in amendment of chapter 1 of the Revised Ordinances is hereby amended by striking out the words, "Sect. 9. The pay-rolls of city employés shall be made up to the first and fifteenth days of each month," and inserting in place thereof the following words: "Sect. 9. The pay-rolls of city employés shall be made up the first and sixteenth days of each month."

[*Adopted Jan.* 26, 1886.]

An Ordinance in Amendment of an Ordinance in Relation to the Inspection and Construction of Buildings.

The Ordinance in relation to the Inspection and Construction of Buildings, passed December 30, 1885, is hereby amended by striking out the 71st section of said Ordinance, and inserting the following in place thereof: —

"SECT 71. Chapter 3 of the Revised Ordinances is hereby repealed."

[*Adopted Jan.* 26, 1886.]

MAYORS

OF

THE CITY OF CAMBRIDGE.

FROM 1846 TO 1886.

James D. Green . . .	from	May,	1846,	to April,	1848.
Sidney Willard . . .	"	April,	1848,	to April,	1851.
George Stevens . . .	"	April,	1851,	to April,	1853.
James D. Green . . .	"	April,	1853,	to April,	1854.
[1]Abraham Edwards .	"	April,	1854,	to January,	1855.
Zebina L. Raymond .	"	January,	1855,	to January,	1856.
John Sargent . . .	"	January,	1856,	to January,	1860.
[2]James D. Green . .	"	January,	1860,	to July 24,	1861.
[3]Charles Theo. Russell	"	July 31,	1861,	to January,	1863.
George C. Richardson	"	January,	1863,	to January,	1864.
Zebina L. Raymond .	"	January,	1864,	to January,	1865.
J. Warren Merrill .	"	January,	1865,	to January,	1867.
Ezra Parmenter . .	"	January,	1867,	to January,	1868.
Charles H. Saunders	"	January,	1868,	to January,	1870.
Hamlin R. Harding .	"	January,	1870,	to January,	1872.
Henry O. Houghton .	"	January,	1872,	to January,	1873.
Isaac Bradford . . .	"	January,	1873,	to January,	1877.
Frank A. Allen . .	"	January,	1877,	to January.	1878.
Samuel L. Montague .	"	January,	1878,	to January,	1880.
James M. W. Hall . .	"	January,	1880,	to January,	1881.
James A. Fox . . .	"	January,	1881,	to January,	1885.
William E. Russell .	"	January,	1885.	Now in office.	

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1 Municipal year changed. 2 Resigned.
3 First elected by the City Council.

GOVERNMENT

OF

THE CITY OF CAMBRIDGE.

1886.

MAYOR.

HON. WILLIAM E. RUSSELL.

ALDERMEN.

GEORGE A. ALLISON,
GEORGE CLOSE,
JOSEPH COGAN,
EDWARD R. COGSWELL,
CHARLES W. HENDERSON,
EDWARD W. HINCKS,
JOSEPH J. KELLEY,
P. ALLEN LINDSEY,
NATHAN C. LOMBARD,
ISAAC S. PEAR.

Aldermen, by Wards.

Ward 1. Aldermen COGSWELL and HINCKS.
" 2. " CLOSE, LINDSEY, and LOMBARD.
" 3. " COGAN and KELLEY.
" 4. " HENDERSON and PEAR.
" 5. Alderman ALLISON.

Clerk.

JUSTIN A. JACOBS.

COMMON COUNCIL.

JOHN H. CORCORAN, *President.*

JOSEPH A. BALL,
EDGAR R. CHAMPLIN,
COLIN CHISHOLM,
EDWARD J. COOLIDGE,
JOHN H. CORCORAN,
JOHN W. COVENEY,
PATRICK H. DECOURCY,
FRANCIS FITZPATRICK,
DANIEL E. FRASIER,
WILLIAM E. HUTCHINS,
WARREN IVERS,
HORACE G. KEMP,
MICHAEL F. MCGRATH,
MATTHEW J. MUNDY,
WILLIAM J. O'NEIL,
GEORGE H. RYTHER,
ALVIN F. SORTWELL,
JOSEPH S. STEARNS,
FRANK H. TEELE,
GEO. A. THURSTON, JR.

Common Council, by Wards.

Ward 1. Messrs. COOLIDGE, IVERS, MCGRATH, and THURSTON.
" 2. Messrs. CHAMPLIN, CHISHOLM, KEMP, RYTHER, SORTWELL, and TEELE.
" 3. Messrs. COVENEY, DECOURCY, FITZPATRICK and MUNDY.
" 4. Messrs. BALL, CORCORAN, FRASIER, and STEARNS.
" 5. Messrs. HUTCHINS and O'NEIL.

Clerk.

WALTER W. PIKE.

Page.

EDWARD MANNING.

CITY CLERK.

JUSTIN A. JACOBS.

ASSISTANT CITY CLERK.

WALTER W. PIKE.

CITY MESSENGER.

FRANCIS L. PRATT.

COMMITTEES OF THE CITY COUNCIL.

Joint Standing Committees.

Accounts.— *Aldermen* LOMBARD and PEAR; *Councilmen* BALL, TEELE, and DE COURCY.

Almshouse. — *Aldermen* KELLEY and CLOSE; *Councilmen* THURSTON, TEELE, and O'NEIL.

Assessors' Department.— *Alderman* HENDERSON; *Councilmen* FITZPATRICK and RYTHER.

City Engineering. — *Aldermen* LOMBARD and KELLEY; *Councilmen* IVERS, MUNDY, and FRASIER.

Claims. — The MAYOR, and *Aldermen* PEAR, KELLEY, and HINCKS; the PRESIDENT, and *Councilmen* CHAMPLIN, THURSTON, FITZPATRICK, HUTCHINS, and RYTHER.

Finance. — The MAYOR, and *Aldermen* LOMBARD, ALLISON, and COGSWELL; the PRESIDENT, and *Councilmen* CHAMPLIN, IVERS, BALL, SORTWELL, and COVENEY.

Fire Department. — *Aldermen* COGAN and HENDERSON; *Councilmen* COOLIDGE, STEARNS, and COVENEY.

Fuel. — *Aldermen* ALLISON and LINDSEY; *Councilmen* SORTWELL, O'NEIL, and FRASIER.

Health. — *Aldermen* COGSWELL and HENDERSON; *Councilmen* MCGRATH, RYTHER, and MUNDY.

Lamps.—*Aldermen* PEAR and HINCKS; *Councilmen* MCGRATH, TEELE, and DE COURCY.

Ordinances. — *Aldermen* LINDSEY and PEAR; *Councilmen* CHAMPLIN, HUTCHINS, and RYTHER.

Printing.—*Aldermen* ALLISON and LINDSEY; *Councilmen* KEMP, CHISHOLM, and STEARNS.

Public Instruction.—*Aldermen* HINCKS and COGAN; the PRESIDENT, and *Councilmen* BALL, COOLIDGE, and COVENEY.

Public Property.—*Aldermen* COGSWELL and COGAN; *Councilmen* IVERS, CHISHOLM, and FRASIER.

Roads and Bridges.—*Aldermen* HENDERSON and CLOSE; *Councilmen* SORTWELL, KEMP, and THURSTON.

Water Supply.—*Aldermen* CLOSE and KELLEY; *Councilmen* COOLIDGE, COVENEY, and TEELE.

Standing Committees of the Mayor and Aldermen.

Bonds. — *Aldermen* LINDSEY, ALLISON, and CLOSE.

Claims. — The MAYOR, and *Aldermen* PEAR, KELLEY, and HINCKS.

Fire Department. — *Aldermen* COGAN, HENDERSON, and CLOSE.

Health. — *Aldermen* COGSWELL, HENDERSON, and LOMBARD.

Licenses. — *Aldermen* KELLEY, COGSWELL, and LINDSEY.

Police. — The MAYOR, and *Aldermen* COGSWELL, CLOSE, and KELLEY.

Roads and Bridges. — *Aldermen* HENDERSON, CLOSE, and PEAR.

Sewers and Drains. — *Aldermen* COGAN, LOMBARD, and HINCKS.

Special Committee of the Board of Aldermen.

Soldiers' Aid. — *Aldermen* COGAN, HINCKS, LINDSEY, HENDERSON, and ALLISON.

Standing Committees of the Common Council.

Bills in the Second Reading. — *Councilmen* FITZPATRICK, COOLIDGE, and STEARNS.

Elections and Returns. — *Councilmen* MCGRATH, HUTCHINS, and MUNDY.

Enrolled Ordinances. — *Councilmen* CHAMPLIN, TEELE, and O'NEIL.

Members of the City Council,

With the Committees on which they have been appointed.

THE MAYOR. — Claims, Finance, Police.

ALDERMAN ALLISON. — Finance, Fuel, Printing, Bonds, Soldiers' Aid.

ALDERMAN CLOSE. — Almshouse, Roads and Bridges, Water Supply, Bonds, Fire Department (Standing), Police.

ALDERMAN COGAN. — Fire Department, Public Instruction, Public Property, Sewers and Drains, Soldiers' Aid.

ALDERMAN COGSWELL. — Finance, Health, Public Property, Licenses, Police.

ALDERMAN HENDERSON. — Assessors' Department, Fire Department, Health, Roads and Bridges, Soldiers' Aid.

ALDERMAN HINCKS. — Claims, Lamps, Public Instruction, Sewers and Drains, Soldiers' Aid.

ALDERMAN KELLEY. — Almshouse, City Engineering, Claims, Water Supply, Licenses, Police.

Alderman Lindsey. — Fuel, Ordinances, Printing, Bonds, Licenses, Soldiers' Aid.

Alderman Lombard. — Accounts, City Engineering, Finance, Health (Standing), Sewers and Drains.

Alderman Pear. — Accounts, Claims, Lamps, Ordinances, Roads and Bridges (Standing).

The President of the Common Council. — Claims, Finance, Public Instruction.

Mr. Ball. — Accounts, Finance, Public Instruction.

Mr. Champlin. — Claims, Finance, Ordinances, Enrolled Ordinances.

Mr. Chisholm. — Printing, Public Property.

Mr. Coolidge. — Fire Department, Public Instruction, Water Supply, Bills in the Second Reading.

Mr. Coveney. — Finance, Fire Department, Public Instruction, Water Supply.

Mr. De Courcy. — Accounts, Lamps.

Mr. Fitzpatrick. — Assessors' Department, Claims, Bills in the Second Reading.

Mr. Frasier. — City Engineering, Fuel, Public Property.

Mr. Hutchins. — Claims, Ordinances, Elections and Returns.

Mr. Ivers. — City Engineering, Finance, Public Property.

Mr. Kemp. — Printing, Roads and Bridges.

Mr. McGrath. — Health, Lamps, Elections and Returns.

Mr. Mundy. — City Engineering, Health, Elections and Returns.

Mr. O'Neil. — Almshouse, Fuel, Enrolled Ordinances.

Mr. Ryther. — Assessors' Department, Claims, Health, Ordinances.

Mr. Sortwell. — Finance, Fuel, Roads and Bridges.

Mr. Stearns. — Fire Department, Printing, Bills in the Second Reading.

Mr. Teele. — Accounts, Almshouse, Lamps, Water Supply, Enrolled Ordinances.

Mr. Thurston. — Almshouse, Claims, Roads and Bridges.

Clerk of Committees.

John McDuffie.
25

Board of Health.

Henry P. Walcott, *City Physician, ex officio.*

(Term, three years. Appointed 1886.)

(Term, two years.)

George F. Piper, (appointed 1885).
Daniel H. Thurston (appointed 1886).

Clerk.

John McDuffie.

Health Officer.

Alfred F. Holt, M. D.

Assistant City Physician.

(Elected in April by the Overseers of the Poor, subject to the approval of the Mayor and Aldermen.)

Lewis L. Bryant, M. D.

Health Officers.

Lothrop J. Cloyes.
Thomas H. Lucy.
Mark J. Folsom.
John F. Murray.

Surveyors of Highways.

The same persons who compose the Board of Mayor and Aldermen.

Auditor of Accounts.

Franklin Perrin

Treasurer.

William W. Dallinger.

Assessors.

(Term, three years.)

Andrew J. Green (elected 1883).
Joshua G. Gooch (elected 1884).
Joseph Whittemore (elected 1885).

Assistant Assessors.

Charles H. Hunnewell. John B. Duffy.
Mason Davis. Edward T. Nichols.
Thomas F. Cahir.

School Committee.

William E. Russell, Mayor, *ex officio*, *Chairman.*

(Term, three years.)

Ward I.

Ephraim Emerton (elected 1885, in place of Garrett E. Nagle, 1883, deceased).
John L. Hildreth (elected 1884).
Edward H. Hall (elected 1885).

Ward II.

Benjamin F. Tweed (elected 1883).
Henry N. Tilton (elected 1884).
Phebe M. Kendall (elected 1885).

Ward III.

Edward B. Malley (elected 1883).
Freeman Hunt (elected 1884).
Patrick J. Finnigan (elected 1885).

Ward IV.

Moses D. Church (elected 1883).
William H. Orcutt (elected 1884).
Sarah S. Jacobs (elected 1885).

Ward V.

William A. Start (elected 1883).
John W. Fairbanks (elected 1884).
Albert M. Barnes (elected 1885).

Secretary.

W. W. Wellington.

Superintendent of Schools.

Francis Cogswell.

Overseers of the Poor.

The MAYOR, *ex officio*, *Chairman.*

(Term, five years.)

George D. Chamberlain (elected 1881).
Charles E. Vaughan (elected 1882).
Knowlton S. Chaffee (elected 1883).
Sumner Albee, (elected 1884).
Michael Corcoran (elected 1885).

Secretary.

David P. Muzzey.

Visitor.

Vespasian Danforth.

Warden of the Almshouse.

Martin L. Eldridge.

Physician of the Almshouse.

Lewis L. Bryant,
(*Assistant City Physician*).

Cambridge Cemetery.

Commissioners.

The MAYOR, *ex officio*, *Chairman.*

(Term, three years).

George S. Saunders (elected 1884).
John F. O'Brien (elected 1884).
Leander Greeley (elected 1886 in place of Curtis Davis, 1885, resigned).
Charles E. Raymond (elected 1885).
Silas B. Buck (elected 1886).
David Ellis (elected 1886).

Superintendent.

James K. Farwell.

Trustees of Cambridge Public Library.

Alderman.
Edward R. Cogswell.

Common Council.
Edgar R. Champlin.

Citizens at Large.
(Term, five years.)

Samuel L. Montague (elected 1882).
Jabez A. Sawyer (elected 1883).
Joseph J. Kelley (elected 1884).
Henry H. Gilmore (elected 1885).
Charles Walker (elected 1886).

Librarian,
Almira L. Hayward.

Secretary.
Charles Walker.

Cambridge Water Board.

The MAYOR, and President of the Common Council, *ex officio*.

(Term, five years.)

James M. W. Hall (elected 1881).
Chester W. Kingsley, *President* (elected 1882).
Leander M. Hannum (elected 1885, in place of Henry L. Eustis, 1883, deceased).
John F. O'Brien (elected 1884).
Knowlton S. Chaffee (elected 1885).

Clerk.
Justin A. Jacobs.

Superintendent of Water Works.

Hiram Nevons.

Pumping Engineer.

Edwin C. Brooks.

Water Registrar.

Walter H. Harding.

Trustees of Sinking Fund of Water Loan.

The MAYOR, City Treasurer, and President of the Common Council, *ex officio*.

Commissioners on Sinking Funds of the City.

(Term, three years.)

Charles H. Saunders (elected 1883).
Frank A. Allen (elected 1885, in place of Robert Douglass, 1883, deceased).
George T. Gale (elected 1884).
Knowlton S. Chaffee (elected 1884).
Joseph A. Holmes (elected 1885).
* ——— ———

Trustees of the Sanders Temperance Fund.

The MAYOR, and President of the Common Council, *ex officio*.

Alderman.	Common Council.
Nathan C. Lombard.	Warren Ivers.
	Joseph A. Ball.

Trustees of the Bridge Charitable Fund.

The MAYOR, and President of the Common Council, *ex officio*.

Alderman.

George A. Allison.

Trustees of the Dowse Institute.

The MAYOR, and President of the Common Council, *ex officio*.
William W. Wellington. Willard A. Bullard.
Frank A. Allen.

Senator in General Court.

Alpheus B. Alger.

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* John M. Tyler, deceased, was elected 1885.

Representatives in General Court.

Solomon S. Sleeper. John W. Wilkinson.
George A. Perkins. George C. Bent.
Cornelius G. H. Bennink. William E. Doyle.

Registrars of Voters.

The City Clerk, *ex officio*, Clerk of the Board.

Horace K. Osborn. (Term expires May 1, 1886).
Jeremiah W. Coveney. (Term expires May 1, 1887).
James H. Wells. (Term expires May 1, 1888).

(One appointed annually, in March or April, to hold office for three years.)

Third District Court of Eastern Middlesex.

Standing Justice.

William H. Orcutt.

Special Justices.

Samuel W. McDaniel Jabez Fox.

Clerk.

Emerson W. Law.

City Solicitor.

Charles J. McIntire.

City Engineer.

William S. Barbour.

Commissioner on West Boston, Craigie's and Prison Point Bridges.

William J. Marvin.

Harbor-Master.

William J. Marvin.

Superintendent of Streets.

John McSorley.

Superintendent of Public Buildings.

Benjamin H. Steele.

Superintendent of Lamps.

Benjamin F. Nourse.

Board of Engineers.

Chief Engineer.

Thomas J. Casey.

Assistant Engineers,

First Assistant . . . . . Nathaniel W. Bunker.
Second Assistant . . . . . Charles W. Brackett.
Third Assistant . . . . . William B. Cade.

Secretary of the Board,

Nathaniel W. Bunker.

Police Department.

Chief of Police.

Lothrop J. Cloyes.

Captains of Police.

District I.	District II.	District III.
Thomas H. Lucy.	Mark J. Folsom.	John F. Murray.

Inspector.

Sergeant Michael A. Dalton.

Sergeants of Police.

James S. Alexander.
William F. Batchelder.
Edward Brady.
Daniel Callahan.
Denis Corcoran.
Michael A. Dalton.
Lawrence J. Ducey.
Alonzo S. Harriman.
William Mullett.
Andrew Sproul.

Policemen.

(With the numbers of their badges.)

No.		No.	
5	Frederick Apel.	20	Timothy Corcoran.
7	George T. Barrington.	56	John Coulter.
28	Edward F. Belcher.	68	John W. Deehan.
53	Elbridge S. Blen.	40	Patrick Doyle.
69	Michael J. Brennan.	35	George S. Dudley.
10	Benjamin F. Bridden.	50	Thomas F. Dynan.
29	Michael J. Conry.	15	Warren A. Eaton.

No.		No.	
8	Joseph H. Furbush.	60	William Nickelson.
38	Michael A. Ginty.	39	Michael J. Nolan.
2	William H. Graves.	18	Charles L. Pike.
41	John J. Griffiths.	52	Charles W. Priest.
9	James P. Hall.	55	Frederick B. Pullen.
25	Thomas S. Hall.	59	Thomas J. Real.
14	Benjamin F. Higgins.	70	Frederick A. Robinson.
49	Simon D. Hiscock.	62	Bernard J. Roper.
47	Robert T. Hixon.	46	Frank W. Scobey.
22	Moses W. Hooper.	6	Leonard Shackford.
33	Amos Jones.	65	John E. Shaughnessy.
11	Henry C. Jones.	63	John W. Skelley.
19	Edward Joyce.	31	Charles H. Stetson.
37	James M. Keaney.	34	David A. Stevens.
27	George A. Marston.	61	Cornelius Sullivan.
66	James McChristal.	67	Thomas F. Sullivan.
1	John E. McCrehan.	13	William Twist.
26	James McElroy.	42	John H. Wells.
64	William H. McMenimen.	23	Michael J. Whalen.
57	Hugh McNamee.	3	Orrin B. White.
30	Matthew R. Moore.	54	John Wiley.
21	Cornelius A. Murphy.	34	James W. Wright.
43	James E. Murray.	*48	William H. Ryan.
45	Patrick F. Murray.		

Policemen (without pay).

J. L. P. Ackers.	Nathaniel W. Bunker.
Horace A. Allyn.	Thomas J. Burns.
Mark H. Appleby.	William Burgess.
John A. Bartlett.	Samuel Busnach.
Richard Balmer.	Solomon M. Busnach.
William H. Bates.	William B. Cade.
Joseph Beaubo.	J. P. Carlon.
Charles F. Bowman.	Thomas J. Casey.
Charles W. Brackett.	Moses M. Child.
Ferdinand N. Buffum.	Charles S. Childs.
Daniel A. Buckley.	Ambrose H. Clark.

* Appointed on probation Feb. 9, 1885.

John Coffee.
Noah M. Cofran.
John Collier.
Joseph Collins.
William Collins.
Patrick Corcoran.
Vespasian Danforth.
George C. Dilman.
James Doherty.
George W. Durgin.
Patrick F. Dunlea.
Thomas H. Eames.
George D. Eaton, Jr.
Frank A. Edson.
Martin L. Eldridge.
Henry L. Emerson.
James K. Farwell.
Dennis J. Fielding.
John E. Fitzgerald.
Martin Flaherty.
Thomas Flynn.
Jeremiah D. Ford.
Oliver G. Fosdick.
William Foster.
Charles A. Gay.
William T. Gibson.
Eli L. Goodrow.
George W. Greenleaf.
Charles E. Hadcock.
Henry L. Hale.
Luther Hapgood.
John L. Harrington.
George H. Hastings.
Thomas M. Howard.
William Hunnewell.
Samuel F. Hunt.
Patrick J. Hurley.
James W. Irwin.
A. B. Joy.
Conrad D. Kinnear.
Barney King.
Martin V. Langley.
Charles S. Lincoln.
John Little.
Abiel E. Long.
James W. Lovering.
Charles K. Luther.
Francis M. Mason.
Bernard McCaffrey.
Jeremiah McCarthy.
Bernard McElearney.
John B. McGovern.
James McNeill.
Thomas Montgomery.
Dennis Murphy.
Nathaniel M. Neale.
Augustus W. Nelson.
Hiram Nevons.
Benjamin F. Nourse.
Thomas F. O'Brien.
Francis A. Osborn.
William F. Peck.
Thomas W. Penney.
Joseph A. Pike.
Frederick E. Pond.
Linn B. Porter.
Francis L. Pratt.
P. H. Raymond.
S. C. Redding.
John Riley.
Charles L. Russell.
Robert Rogers.
Joshua S. Sanborn.
Alex. F. Shepherd.
Oscar W. Short.
Joseph Skelton.
Andrew G. Smith.
Henry Smith.
George Smyth.
James W. Thompson.

George W. White.
James F. Wilkinson.
Edward M. Williams.
Edgar L. Worcester.
George Wood.

Keeper of Lock-ups.

Lothrop J. Cloyes.

Truant-Officers.

Moses M. Child.
John Collier.
Francis M. Mason.

Probation Officer.

Frederick W. Hagar.

Constables.

George T. Barrington.
William F. Batchelder.
John L. Boynton.
John C. Burdakin.
Michael S. Busnach.
Lothrop J. Cloyes.
Michael A. Dalton.
Lawrence J. Ducey.
Benjamin W. Ellis.
John R. Fairbairn.
Thomas T. Ferguson.
Mark J. Folsom.
Joseph Fox.
John Good.
Alfred F. Holt.
Appleton Hubbard.
Charles H. Hunnewell.
John Lennon.
Charles S. Lincoln.
Frank H. Lull.
Frederick A. Lull.
James I. Murphy.
John F. Murray.
Dennis B. Nash.
Fred. H. Seavey.
John W. Skelley.
Warren F. Spalding.
William Twist.
Edgar L. Worcester.

Undertakers.

William Casey.
John W. Coveney.
Thomas Devens.
Samuel F. Hunt.
Joseph J. Kelley.
James Kernan.
Horace D. Litchfield.
Judson Litchfield.
Roland Litchfield.
Frank H. McDonald.
C. Henry Lockhart.
Abiel E. Long.
Edward J. P. Maccabee.
William N. Mullins.
John J. Murphy.
William Ross.
James E. Rourke.
William A. Taylor.
Benjamin F. Wyeth.
George F. Ricker.
John Sweeney.

Auctioneers.

John K. Abbott.
William H. Brown.
Daniel A. Buckley.
Edward Burnham.
Jeremiah W. Coveney.
Watson G. Cutter.
M. E. Cushman.
John R. Fairbairn.
William Dickson.
John Lennon.
Frederick A. Lull.
Samuel Nash.
Samuel F. Rugg.
Edmund E. Sanborn.
Ira Taylor.
Charles H. Young.
Patrick J. O'Brien.

Fence-Viewers.

George B. Lothrop.
Abel Stevens.
Francis H. Stickney.

Field-Drivers.

Frederick Apel.
George T. Barrington.
Edward F. Belcher.
Elbridge S. Blen.
Michael J. Brennan.
Benjamin F. Bridden.
Michael J. Conry.
Timothy Corcoran.
John Coulter.
Frank J. Donelan.
Patrick Doyle.
George S. Dudley.
Thomas F. Dynan.
John W. Deehan.
Warren A. Eaton.
Joseph H. Furbush.
William Gallagher.
Michael A. Ginty.
William H. Graves.
John J. Griffiths.
James P. Hall.
Thomas S. Hall.
Benjamin F. Higgins.
Simon D. Hiscock.
Robert T. Hixon.
Moses W. Hooper.
Amos Jones.
Henry C. Jones.
Edward Joyce.
James M. Keaney.
George A. Marston.
James McChristal.
John E. McCrehan.
James McElroy.
William H. McMenimen.
Hugh McNamee.
Matthew R. Moore.
Cornelius A. Murphy.
James E. Murray.
Patrick F. Murray.
William Nickelson.
Michael J. Nolan.
Charles L. Pike.
Charles W. Priest.

Frederick B. Pullen.
Thomas J. Real.
Frederick A. Robinson.
Bernard J. Roper.
Frank W. Scobey.
Leonard Shackford.
John E. Shaughnessy.
John W. Skelley.
Charles H. Stetson.
David A. Stevens.
Cornelius Sullivan.
Thomas F. Sullivan.
William Twist.
John H. Wells.
Michael J. Whalen.
Orrin B. White.
John Wiley.
James W. Wright.

Measurers of Wood and Bark.

William H. Hood.
William Jaques.
Herbert T. Lawrence.
Horace L. Porter.
Joshua S. Sanborn.

Pound-Keepers.

Benjamin F. Bridden.
William Twist.

Fish Officers.

——— ———
Linn B. Porter.
James Cox.

Hay-Weighers.

Thomas Gurnham.
Joshua S. Sanborn.
Timothy Sullivan.

Coal-Weighers.

Frank Bailey.
Edward W. Blake.
Silas E. Buck.
Edward E. Coye.
George C. Gardiner.
Walter F. Grieves.
Fred. A. Humiston.
Patrick Kelley.
Herbert T. Lawrence.
Thomas H. Matthews.
John E. A. Mulliken.
Horace L. Porter.
Joshua S. Sanborn.
Jones Valentine.
Alfred H. Wellington.
Ernest H. Wellington.

Weigher of Boilers and Heavy Machinery.

Joshua S. Sanborn.

Inspectors of Junk Shops.

Mark J. Folsom. Thomas H. Lucy.
John F. Mnrray.

Sealer of Weights and Measures.

Benjamin F. Nourse.

Deputy Sealer.

Conrad D. Kinnear.

Weighers.

Joseph W. Averill.
Leonard R. Bacon.
George W. Barnes.
Thomas Burns.
Isaac A. Chandler.
James W. Coleman.
Ira Doughty.
John Guiney.
Alvin M. Haines.
Charles F. Hittinger.
Harry Hittinger.
Nathan H. Holbrook.
Henry Hooker.
Henry James.
Alfred Merrill.
Robert S. Paine.
Thomas Ralph.
James H. Reardon.
John Reardon, Jr.
Joshua S. Sanborn.
Thomas H. Shea.
Charles F. Stafford.
George W. Wright.

Inspector of Milk.

Frank A. Dunbar.

Inspector of Vinegar.

Frank A. Dunbar.

Surveyors of Mechanics' Work.

William S. Barbour.
Arthur Hodges.
Charles A. Mason.
John S. Pollard.

Measurers and Surveyors.

Henry L. Hale.
E. F. Young.

Inspector of Charcoal Baskets.

Benjamin F. Nourse.

Measurer of Grain.

Benjamin F. Nourse.

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